1985

An Experimental Research Study on the Effects of the Type of Accounting Service on a Bank Lending Decision for Nonpublic Businesses (Audit, Compilation, Review).

Jeffrey Reed Miller
Louisiana State University and Agricultural & Mechanical College

INFORMATION TO USERS

This reproduction was made from a copy of a manuscript sent to us for publication and microfilming. While the most advanced technology has been used to photograph and reproduce this manuscript, the quality of the reproduction is heavily dependent upon the quality of the material submitted. Pages in any manuscript may have indistinct print. In all cases the best available copy has been filmed.

The following explanation of techniques is provided to help clarify notations which may appear on this reproduction.

1. Manuscripts may not always be complete. When it is not possible to obtain missing pages, a note appears to indicate this.

2. When copyrighted materials are removed from the manuscript, a note appears to indicate this.

3. Oversize materials (maps, drawings, and charts) are photographed by sectioning the original, beginning at the upper left hand corner and continuing from left to right in equal sections with small overlaps. Each oversize page is also filmed as one exposure and is available, for an additional charge, as a standard 35mm slide or in black and white paper format.*

4. Most photographs reproduce acceptably on positive microfilm or microfiche but lack clarity on xerographic copies made from the microfilm. For an additional charge, all photographs are available in black and white standard 35mm slide format.*

***For more information about black and white slides or enlarged paper reproductions, please contact the Dissertations Customer Services Department.**

Miller, Jeffrey Reed

AN EXPERIMENTAL RESEARCH STUDY ON THE EFFECTS OF THE TYPE OF ACCOUNTING SERVICE ON A BANK LENDING DECISION FOR NONPUBLIC BUSINESSES

The Louisiana State University and Agricultural and Mechanical Col. PH.D. 1985

PLEASE NOTE:

In all cases this material has been filmed in the best possible way from the available copy. Problems encountered with this document have been identified here with a check mark __✓__.

1. Glossy photographs or pages _____
2. Colored illustrations, paper or print _____
3. Photographs with dark background _____
4. Illustrations are poor copy _____
5. Pages with black marks, not original copy _____
6. Print shows through as there is text on both sides of page _____
7. Indistinct, broken or small print on several pages ✓
8. Print exceeds margin requirements _____
9. Tightly bound copy with print lost in spine _____
10. Computer printout pages with indistinct print _____
11. Page(s) _____ lacking when material received, and not available from school or author.
12. Page(s) _____ seem to be missing in numbering only as text follows.
13. Two pages numbered _____. Text follows.
14. Curling and wrinkled pages _____
15. Dissertation contains pages with print at a slant, filmed as received _____
16. Other _____

_____

_____

AN EXPERIMENTAL RESEARCH STUDY ON THE EFFECTS OF THE TYPE OF ACCOUNTING SERVICE ON A BANK LENDING DECISION FOR NONPUBLIC BUSINESSES

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

in

Accounting

by
Jeffrey Reed Miller
B.B.A., Southwest Texas State University
M.B.A., Southwest Texas State University
December 1985

ACKNOWLEDGEMENTS

I am grateful to many people who assisted me with this dissertation.

First, sincere appreciation is extended to Professors Richard A. White, Bart P. Hartman, Anthony P. Curatola, Glenn E. Sumners, Jeffrey L. Ringuest, and Mark D. Lange for serving as my dissertation committee. I value their competence and wise counsel for all have made comments and suggestions which were very helpful. A special note of thanks to my chairman, Richard A. White, for his guidance and encouragement in this research project and for the many hours he spent helping me.

I also wish to thank Professors Vincent C. Brenner and Alan H. Friedberg for allowing me to use their equipment to write the dissertation. Their generosity saved me a great amount of time and money.

I am also very thankful to many friends who greatly assisted me in mailing the questionnaires, which was

a very time cosuming task. Grateful appreciation is extended to Paul and Jane Lin, Bob and Becky Smith, D. D. Guillory, Bill Hebert, David Hulse, Zafar Khan, and Joyce Strawser for their help.

I also want to thank Professor Don L. Woodland and Chris White of the School of Banking of the South. Dr. Woodland was extremely helpful in securing an excellent mailing list for this study, and Mr. White provided some valuable typing services in connection with the questionnaire.

I also sincerely appreciate Professor Stephen W. Looney's valuable counsel in this research.

Finally, I am very grateful to my parents, my grandmother, and my brothers for their encouragement and financial support throughout my doctoral studies. Special thanks is extended to my brother Greg Miller for his extremely generous financial assistance and encouragement.

TABLE OF CONTENTS

Page

Chapter

LIST OF TABLES

Page

Table

LIST OF FIGURES

ABSTRACT

The primary objective of this study was to test whether the type of accounting service, and consequently the type of report, affect a line credit decision made by commercial bank lending officers. To achieve this research objective three independent variables and two dependent variables were used. The independent variables were the level of accounting service, the size of the accounting firm, and the capital structure of the company applying for the line of credit. The two dependent variables were the bank loan officers' recommendations on the maximum line of credit to be granted and the minimum interest rate to be charged.

The findings showed that the level of accounting service, the size of accounting firm, and the capital structure of the company all affected the line of credit decision. Specifically, the audit report resulted in a statistically significant higher loan size than a compilation. A statistically significant difference was not found between an audit and a review nor between

a review and a compilation. The size of the CPA firm also had a significant effect on the loan size. An accounting service performed by a large international CPA firm resulted in a larger loan than when the service was performed by a local CPA firm. Neither the type of accounting report nor the size of the CPA firm affected the interest rate. The capital structure of the company significantly affected both the loan size and the interest rate. The capital structure had a statistically significant impact on both the loan size and the interest rate.

This study also investigated the effect of the type of accounting service and the size of the CPA firm on certain perceptions of the bank lending officers. The findings showed that both the size of the CPA firm and the accounting service affected the bankers' perceptions as to the amount of testing (i.e., inquiries, analytical review, and substantive) performed by the CPA. The results of the study also indicate that bank loan officers are not correctly receiving the messages of the review report as intended by the ARSC.

CHAPTER 1

INTRODUCTION

The role of the accountant in regard to unaudited financial statements has changed significantly in recent years. Much of this change is due to the criticism that the profession, as a whole, received during the 1970s for neglecting the needs of small businesses. Indeed, per examination of the professional standards and the research in accounting, one would probably conclude that the independent Certified Public Accountant (CPA) devotes much more of his effort to audited statements than unaudited statements, when in fact, the opposite is true [Raymond, 1981]. In the United States, more than 17,000,000 businesses are in operation today.[1] Of these businesses,

---

[1]This figure is an estimate based upon the Statistical Abstract of the United States: 1984. This abstract showed that in 1980, there were approximately 16,793,000 businesses.

only 10,717 were required to file annual audited reports with the Securities and Exchange Commission [1984] during 1983.

During the last decade, the American Institute of Certified Public Accountants (AICPA) has given more attention to the needs of businesses that are not required to be audited. In December 1978, under the auspices of the AICPA, the Accounting and Review Services Committee [1978] issued Statements on Standards for Accounting and Review Services (SSARS) No. 1, which allows CPAs to provide two levels of assurance which are less than that of an audit. The AICPA's managing director of technical standards stated that SSARS No. 1 was revolutionary [Kelley, 1979]. The main purpose of this research is to analyze the effect of these different levels of assurance on a user's decision. Specifically, this study will test whether the level of accountant's assurance affects a bank lending decision.

Historical Background

In 1939, the American Institute of Accountants (AIA), which was the forerunner to the AICPA, formed the Committee on Auditing Procedure (CAP). Shortly thereafter, CAP issued its first statement, Statements on Auditing Procedures (SAP) No. 1, which gave guidelines to the independent accountant in conducting an audit [Scott, 1982]. In the area of unaudited statements, this pronouncement

only stated that if the auditor's examination was less "in scope than he considers necessary" (i.e., not enough evidence was gathered) then he "... should limit his report to a statement of his findings and, if appropriate, his reasons for omitting an expression of opinion" [CAP, 1939, p. 5].

The first official pronouncement dealing exclusively with unaudited statements was SAP No. 23, which was issued in 1949. This pronouncement stated that the CPA should clearly indicate the degree of responsibility he is taking in the report accompanying the financial statements. However, no examples of reports were given in this statement. As a result of this lack of guidance, two types of reports evolved--a disclaimer of opinion and a so-called negative assurance opinion. A disclaimer of opinion clearly noted that no independent tests were performed. The negative assurance opinion stated that the CPA disclaimed an opinion on the financial statements, but nothing came to his attention to indicate that the financial statements were not fairly presented. This negative assurance opinion was issued if the CPA performed some tests on the financial statements, but not enough tests to constitute an audit [Miller, 1980].

In 1962, CAP issued SAP No. 32, which prohibited the use of the negative assuranc report except in special situations (e.g., "comfort letters" to underwriters and

certain "special reports"). This pronouncement left CPAs in a dilemma because SAP No. 23 stated that the accountant should indicate clearly the degree of responsibility that he is taking, yet it banned the type of language (i.e, a negative assurance opinion) that CPAs had been using to indicate the degree of responsibility. Therefore, to clarify the situation, SAP No. 38 [1967] entitled "Unaudited Financial Statements" was issued, which required CPAs to use a disclaimer of opinion in all cases involving audited statements and prevented CPAs from stating anything more. An example of such a disclaimer is as follows:

> The accompanying balance sheet of X Company as of December 31, 19xx and related statement(s) of income and retained earnings for the year then ended were not audited by us and accordingly we do not express an opinion on them. [CAP, 1967, par. 4]

A problem resulted from the fact "that not all unaudited statements are alike in the degree of assurance that a CPA is capable of providing" [Carmichael, 1974, p. 68]. That is, a CPA may perform write-up work for one client and conduct extensive tests for another. Yet, according to SAP No. 38, the CPA would have to issue a disclaimer in both cases. Whenever a complete audit was not performed, a disclaimer was required. The CPA had to give either the maximum assurance of an audit opinion or the no assurance of a disclaimer [Carmichael, 1974]. Therefore, when a disclaimer of opinion was issued, the users of the financial statements had difficulty

in determining the appropriate level of assurance. Not only was this a disservice to the user, but also to the clients who may have "paid substantial accounting fees and were presented with financial statements containing the same disclaimer which would have been the case had the accountants merely extracted account balances from the books and put them in financial statement form" [Derieux, 1980, p. 99]. In addition, smaller businesses may have been required to be audited by their bankers when a lesser level of assurance may have been adequate (i.e, an assurance level greater than a disclaimer, but less than an audit).

The interest in various assurance levels was not confined to small businesses. A problem arose in the reporting of interim information in which companies would report a significant transaction in one manner on the interim statements, but the auditors would require a change in the method on the year-end financial statements. As a result, the Securities and Exchange Commission (SEC) and others felt that there should be some auditor involvement on interim financial statements. Thus, in 1975, SAS No. 10 entitled "Interim Review of Financial Information" was issued by the Auditing Standards Executive Committee (AudSEC). In the following year, AudSEC issued SAS No. 13 [1976] entitled "Reports on a Limited Review on Interim Financial Information." These two statements "are directed primarily toward the needs of publicly

held companies and provide guidance to CPAs in making limited reviews of interim financial statements of those companies" [Deriuex, 1980, p. 98].

Professional standards on unaudited financial statements were also affected by the court case of 1136 Tennants' Corporation v. Max Rothenberg and Company [277 N.Y.S. 2d 996, 1967; 319 N.Y.S. 2d 1007, 1971; 281 N.E. 2d 846, 1972]. Rothenberg, a CPA, was presumably engaged to perform "write-up" services for $600 per year for a corporate cooperative apartment house. The managing agent embezzled over $100,000 from the corporation, and the CPA did not discover the embezzlement during his work. Although some suspicious items were noted by the CPA, he failed to investigate these items. The plaintiff was awarded $237,278 in damages because the CPA failed to inform him of these suspicious items. As a result of this case, AudSEC, which was the successor to CAP, issued the "Guide for Engagements of CPAs to Prepare Unaudited Financial Statements" [Robertson and Davis, 1982; Miller, 1980; and Scott, Page, and Hooper, 1982].

Congressional investigations during the mid 1970s criticized the accounting profession for neglecting the needs of small business. The Moss and Metcalf committees [Reports, Accounting and Management Subcommittee, 1977] noted that the problems of small businesses were not adequately considered when establishing accounting

standards. As a result, small clients' seemed to be denied "the full benefit of a CPA's service" [Robertson, 1982, p. 719]. The reasoning behind this allegation was that accounting standards are greatly influenced by the large CPA firms, particulary the Big Eight, and these firms' revenues result largely from big businesses. Consequently, the accounting standards were set for large businesses. The controversy became known in the field of auditing as "Big GAAS versus Little GAAS" [Robertson and Davis, 1982].

In response to pressure from certain state societies, the AICPA directed AudSEC to appoint a committee which would address the problems associated with unaudited financial statements [Miller, 1980]. Therefore, in late 1975, the Accounting and Review Services Committee (ARSC) was established to reconsider the AICPA pronouncements regarding a CPA's association with unaudited financial statements and to make recommendations [Gregory, 1979]. However, in 1977, the committee was elevated to a senior technical committee in response to congressional pressure. Because a senior technical committee has the authority to establish standards, ARSC's pronouncements are enforceable under Rule 204 of the AICPA's Code of Professional Ethics [AICPA, 1984]. As a result of the appointment of the ARSC to "senior" status, the reporting standards covering unaudited financial statements now depend upon the status

of the company. If the company is considered to be a public company, then SAS No. 26 issued by the Accounting Standards Board (ASB) provides guidance to the accountant. This statement basically states that a disclaimer of opinion should be issued when a CPA's name is associated with the financial statements [AICPA, 1984]. However, if the company is not considered to be a public company, then the pronouncements issued by the ARSC give guidance to the practitioner. Thus, SAP No. 38 and "Guide for Engagements of CPAs to Prepare Unaudited Financial Statements" were superseded by SAS No. 26 and the statements issued by the ARSC.

In December 1978, the ARSC issued its first statement, Statement on Standards for Accounting and Review Services (SSARS) No. 1, which allows CPAs to provide lesser levels of assurance than that of an audit to a nonpublic entity. A nonpublic entity is defined in SSARS No. 1 as follows:

> Any entity other than one (a) whose securities trade in a public market either on a stock exchange (domestic or foreign) or in the over-the-counter market, including securities quoted only locally or regionally, or (b) that makes a filing with a regulatory agency in preparation for the sale of any class of its securities in a public market. [ARSC, 1978, par. 4]

SSARS No. 1 allows CPAs to perform compilations and reviews for nonpublic entities. In a compilation report, the accountant expresses no assurance on the financial statements. A review report is designed to give the user limited assurance that the financial

statements are presented in accordance with generally accepted accounting principles [ARSC, 1978].

Table 1, presented on the following page, illustrates the differences in the required procedures for the audit, review, and compilation. Four other SSARSs have been issued since SSARS No. 1, and all of these statements are taken into consideration in this table and in the remaining discussion in this paper.

As noted in Table 1, only an audit requires a detailed examination and testing of the accounting records and related internal control. However, both an audit and a review require an analytical analysis of the financial statements. These analytical procedures consist of the following:

1) comparison of financial statements for comparable prior periods,
2) comparison of the financial statements with anticiapted results, if available (for example, budgets and forecasts), and
3) study of the relationships of the elements of the financial statements that would be expected to conform to a predictable pattern based on the entity's experience. [ARSC, 1983, par. 27]

In addition to the above analytical procedures, a CPA is required to make a number of inquiries in performing a review. These inquiries concern:

1) the entity's accounting principles and practices;
2) the entity's procedures for recording, classifying, and summarizing transactions, and accumulating information for disclosure in the financial statements;

TABLE 1

COMPARATIVE CRITERIA FOR ISSUING REPORTS ON AUDITS, REVIEWS, AND COMPILATIONS

Criteria Regarding Requirements for Services	Type of Service		
	Audit	Review	Compilation
Independence between accountant and client necessary for performance of service?	Yes	Yes	No
Formal engagement letter between client and accountant required?	No	No	No
General knowledge of client's accounting system and industry accounting practices required?	Yes	Yes	Yes
Detailed examination and testing of accounting records and related internal controls required?	Yes	No	No
General analytical analyses of financial statements required?	Yes	Yes	No
Attorney representation letter from client's legal counsel required?	Yes	No	No
Representation letter from client required?	Yes	No	No
Financial statements explicitly include a description of the nature of work performed?	No	No	No
Financial statements explicitly include a reference to the accountant's report?	No	Yes	Yes
Accountant's report includes assurances regarding financial statements?	Yes	Yes	No

SOURCE: Charles L. Holley, "Analysis and Summary of Compilation and Review," Baylor Business Studies, May-July, 1980, p. 35.

3) actions taken at meetings of stockholders, board of directors, committees of the board of directors, or comparable meetings that may affect the financial statements; and
4) persons having responsibiliity for financial and accounting matters concerning a) whether the financial statements have been prepared in conformity with generally accepted accounting principles consistently applied, b) changes in the entity's business activities or accounting principles and practices, c) matters as to which questions have arisen in the course of applying the foregoing procedures, and d) events subsequent to the date of the financial statements that would have a material effect on the financial statements. [ARSC, 1983, par. 27]

A compilation requires that the CPA should possess a general understanding of the nature of the entity's accounting process and "the accounting principles and practices of the industry in which the entity operates" [ARSC, 1983, pars. 10-11]. The CPA is also responsible for reading the financial statements to see if they are appropriate in form and free from obvious material error [ARSC, 1983, par. 13].

Unresolved Issues

As noted earlier, the unaudited financial statements were vague as to how much work was actually performed by the CPA. SSARS No. 1 alleviated this problem somewhat. One potential problem of this statement, however, is that users may incorrectly interpret the accountant's report. When the exposure draft for SSARS No. 1 was issued, an unprecedented response of nearly 400 letters was received. Such a large response should not be too

surprising, since the statement was considered revolutionary. A number of these letters commented that undue reliance will be placed on a compilation because of "the fact that an accountant's name will be associated with compiled financial statements through a lengthy report that does not indicate the clear-cut familar disclaimer of opinion, coupled with the fact that the statements need not be marked `unaudited'" [Kelley, 1979, p. 20]. A study performed by Gregory and Kelley [1981] indicated that users may not be correctly interpreting the message of a compilation report. Robert Morris Associates Accounting Policy Committee noted that the compilation report may be misleading because the report appears very professional. This committee stated that CPAs should not even use the compilation when reporting to a third party because the user will attach a greater value to the statements than the CPA intended [Waterston, 1979].

In addition, some felt that users may not understand the review report and that the different levels of assurance may confuse users [Kelley, 1979; Brown, 1979]. The review report gives the user some assurance that the financial statements are fairly presented. However, the amount of assurance achieved is not clear. The example of a review report illustrated in the Codification of Statements on Standards for Accounting and Review Services: Numbers 1 to 5 states that a review has been made "in accordance

with the standards established by the American Institute of Certified Public Accountants" [ARSC, 1983, par. 40]. These standards, however, "are rather imprecise" [Waterston, 1979, p. 14]. Some bankers see the quality of the review varying more from CPA to CPA, than the quality of an audit [Waterston, 1979]. Bainbridge [1979] showed that analytical review procedures, which are used in a review, are not well understood by the banking community. Concern has also been expressed as to whether users will be able to perceive a qualitative difference between an audit and a review [Solomon, Chozen, and Miller, 1983].

As a result of the potential misinterpretation of the messages of the different types of accounting reports, many felt that increased liability exposure would also result, particularly in the area of compilations. In performing a compilation, the accountant basically presents information in the form of financial statements without expressing any assurance on them. Therefore, some consider a compilation to be "an unprofessional objective" with which the CPA should not be associated [Kelley, 1979, p. 20]. Others feel that the mere association of the CPA's name adds credibility to the financial statements even though no actual tests are made [Kelley, 1979].

Purpose of the Study

The major purpose of this research project was to test the effect of the accountant's report on one type

of user's decision. More specifically, the research attempted to answer the following question:

> Does the type of accounting service, and consequently the type of report, affect a line of credit decision made by bank lending officers?

Methodology

To answer the research question, a field experiment was performed. The subjects for the experiment were bank lending officers since they are seen to be "one of the main users of the compilation and review reports" [Johnson, Pany, and White, 1983, p. 43]. The subjects were presented with a set of financial statements accompanied by one form of accountant's association--audit, review, compilation, or no association. The lending officers were asked to answer several questions based upon the financial statements and the accountant's report. Specifically, the lending officer was asked to state the maximum line of credit that he would be willing to grant the company and the minimum interest rate that he would recommend on the line of credit. Therefore, the size of the loan and the interest rate were the two main dependent variables. In addition to these two responses, the loan officers were also asked some questions dealing with their perceptions of (1) the responsibility that the accountant is assuming for the financial statements, (2) the assurance that the financial statements are presented in accordance with generally accepted accounting principles, and

(3) the amount of testing that the accountant performed on the financial statements.

The basic research design for this experiment was a 3x2x2 factorial design. The three independent variables for the study were the level of accountant's association (i.e., compilation, review, and audit), the size of the CPA firm (i.e., local and large international), and the capital structure (i.e., weak and strong). Multivariate Analysis of Variance (MANOVA) was used to interpret the significance of the subjects' responses.

A fourth level of accountant association was also tested in this study, which was that of no accountant association. This level of association was tested against each of the other levels separately by using one-way MANOVAs. This fourth level was not included in the factorial design because there were no levels of the second independent variable (i.e., type of accountant) when there was no accountant association.

Contribution of the Study

First, since relatively little is known about the effect of SSARS No. 1 on users' decisions, this experiment provides some information on the effect of the type of accountant's report on the bank lending decision. This effect should be of interest to nonpublic businesses, the accounting profession, and users. Although SSARS No. 1 clearly indicates that different messages are intended

from the various types of reports, prior research has not shown any effect on users' decisions. If this result is accurate, then many businesses may be paying for unnecessary accounting services. A survey of CPA firms conducted by Arnold and Diamond [1979] showed that a review would cost 50 per cent of an audit, while a compilation would cost 20 per cent of an audit. For a continuing client, a review would cost only 44 per cent of an audit. These percentages are based on a family-owned company that has $5,000,000 in annual sales.

Second, tests were made to determine whether the messages of the different types of reports are being perceived as intended by SSARS No. 1. For example, SSARS No. 1 states the following:

> Management, shareholders, credit grantors, and others who use financial statements should be able to readily identify the degree of responsibility, if any, the accountant is taking with respect to such financial statements. A written report is recognized by users of financial statements as the vehicle by which an accountant indicates that responsibility. [ARSC, 1979, par. 5]

Therefore, according to SSARS No. 1, the accountant is accepting different levels of responsibility from the various reports, and bank lending officers should be able to note this difference. In addition, SSARS No. 1 states that the various accounting services result in different levels of assurance. As previously mentioned, concern has been expressed that too much reliance may

be placed on these reports. That is, a greater level of assurance may be perceived than is appropriate. The amount of assurance that the accountant's report provides, as perceived by the bank lending officers, was also examined.

Third, this experiment introduced variables that have not been considered in prior research studies. Virtually all field experiments dealing with accounting reports, including those studies pertaining to audit qualifications, have not manipulated any other variables besides the type of report. This study was innovative in that other factors, which bankers consider as important, were manipulated. For example, Arnold and Diamond [1981] conducted a survey of bank loan officers to determine the factors that bankers consider to be the most important in determining the appropriate level of service for a prospective customer. The two most important factors were the size of the loan and the capital structure of the customer. All previous studies pertaining to SSARS No. 1 have neglected these variables.[2] These two factors were included as variables in this study.

Fourth, this research provides some guidance to nonpublic businesses and CPA firms in selecting the type

---

[2]Hicks [1982] did include loan size as a dependent variable. Her study dealt mainly with different audit reports, but she did include a review in her study. See Chapter 2 for more detail.

of accounting service that a business may need. By including certain variables in this study, some helpful insight should be gained as to when a particular type of accounting service would be the most appropriate.

Finally, this research provides insight into whether the size of the CPA firm affects bank lending decisions. Some evidence exists, although it is largely anecdotal, that the size of the CPA firm affects the perceived quality of the accountant's report. The results of this factor should be of interest to the accounting profession and to those businesses that are attempting to decide on the size of CPA firm that they should employ.

CHAPTER 2

LITERATURE REVIEW

The main purpose of this chapter is to discuss the research studies that pertain to compilations and reviews. Before discussing these studies, however, the importance of accounting information and of the independent accountant's association with financial statements is discussed.

The Importance of Accounting Information

The usefulness of accounting information has been proclaimed by authoritative bodies of accounting, such as the Financial Accounting Standards Board and the Accounting Principles Board. Examples of such assertions are as follows:

> Financial reporting should provide information that is useful to present and potential investors and creditors and other users in making rational investment, credit, and similar decisions. [FASB, 1978, par. 34]

> Accounting is a service activity. Its function is to provide quantitative information, primarily financial in nature, about economic entities that is intended to be useful in making economic decisions. [APB, 1971, par. 9]

The usefulness of accounting information is also "suggested in the literature through expressions of the objectives of accounting" [Wallace, 1978, p. 15]. Some examples of such statements are as follows [Wallace, 1978, p. 15]:

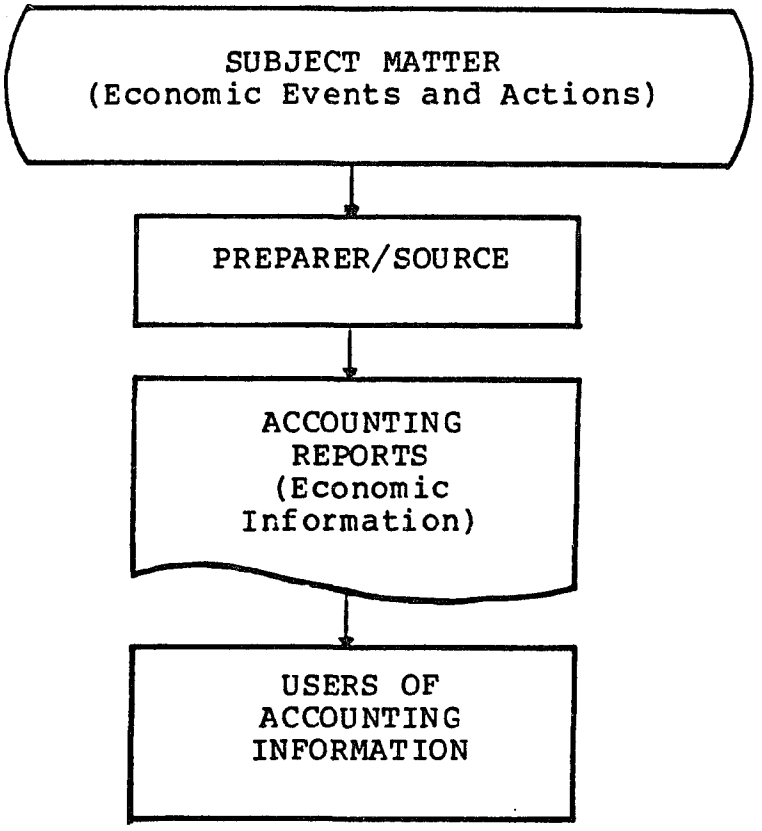
> Accounting is a measurement and communication system to provide economic and social information about an identifiable entity to permit users to make informed judgments and decisions leading to an optimum allocation of resources and accomplishments of the organization's objectives. [Langenderfer, 1974, p. 74]

> The objectives of accounting are to provide information for the following purposes:
> 1. Making decisions concerning the use of limited resources, including the identification of objectives and goals.
> 2. Effectively directing and controlling an organization's human and material resources.
> 3. Maintaining and reporting on the custodianship of resources.
> 4. Facilitating social functions and control. [AAA, 1966, p. 4]

A Statement of Basic Auditing Concepts (ASOBAC), which was issued by the Committee on Basic Accounting Concepts [1973], discusses the communication of accounting information to the user. As shown in Figure 1, which appears on the following page, the main purpose of the communication process is for the preparer to convert and transmit relevant information about economic transactions to the user. The user must then interpret the information

FIGURE 1

THE COMMUNICATION OF
ACCOUNTING INFORMATION



SOURCE: Committee On Basic Auditing Concepts, "A Statement of Basic Auditing Concepts," Studies in Accounting Research #6 (Sarasota, Florida: American Accounting Association, 1973), p. 9.

and evaluate the quality of the information that he receives [Committee on Basic Accounting Concepts, 1973].

Demski [1974] presents the role of accounting information in a slightly different manner. He states that accounting

information has two roles. The first roe is that of providing pre-decision information. In this context, information is seen as establishing or altering the user's prior probabilities concerning the outcomes of his decisions (e.g., to invest in or to loan money to a company). Many financial accounting issues are associated with this pre-decision role. Examples of such issues, when considered in the context of the "usefulness" to the user, would include earnings per share, revenue recognition, current cost versus historical cost, and human resource accounting [Demski, 1974].

The second role of accounting information presented by Demski [1974] is that of a post-decision function. Contingent trading would be nearly impossible unless some means were provided to verify which state occurred. That is, an agreement between parties based on some future event could not be made unless the information was made known to both of the parties as to which state actually occurred.[1]

Disagreement does appear to exist, however, over the value of financial statements. Results from some studies have indicated that financial statements have

---

[1]Demski illustrates this point by giving an amusing story of "a wealthy San Fransisco resident who, lonely and alone in his city apartment one evening, called a friend in Las Vegas and played roulette over the telephone. He could not, of course, observe state occurrence; and he ended the evening owing his `friend' $70,000." [Demski, 1974, p. 224]

had little or no effect on companies' stock prices, and thus accounting information appears to be of little value. Much of this disagreement can be traced to the extensive amount of research performed on the "efficient market hypothesis," which basically states that all publicly available information is quickly reflected in stock prices [The Commission on Auditors' Responsibilities, 1978]. Empirical findings in the efficient markets literature suggest that the user of publicly available financial information is unable to have "excess returns." Since the financial statements are historically based, they seldom contain new information. Therefore, the annual financial statements appear to have little or no effect on the prices of securities.

However, these findings do not imply that the publicly available financial information is useless [Wallace, 1978]. On the contrary, Beaver [1981] states that virtually all "studies have found a statistical dependency between earnings and prices, which is consistent with the hypothesis that earnings convey information" [Beaver, 1981, p. 139]. Ball and Brown [1968] and Beaver, Clarke, and Wright [1979] showed a positive relationship between security price changes and earnings changes. In the Ball and Brown [1968] study, the researchers claimed that 85 to 90 per cent of the information contained in the annual reports was already reported by a more prompt media.

That is, the annual reports did not rate highly as a timely media, but the financial information was significant to the users. Beaver [1968] also showed significant price reaction to the annual earnings. Similarly, Foster [1977] found a statistically significant price change the day before and the day of the announcement of earnings. The results from studies performed by Beaver, Kettler, and Scholes [1970], Beaver and Manegold [1975], Gonedes [1975], and Lev [1974] imply that financial information aids the investor in evaluating the risk of the security. Therefore, research has shown that accounting information does affect users' decisions.

The Importance of the Independent Accountant's Association with the Financial Statements

The need for attesting financial information can be traced to antiquity. In his book, A History of Accounting and Accountants, Brown [1905] stated the following:

> The origin of auditing goes back to times scarcely less remote than that of accounting. Whenever the advance of civilisation brought about the necessity of one man being entrusted to some extent with property of another the advisability of some kind of check upon the fidelity of the former would become apparent. [Brown, 1905, p. 74]

The attest function can be traced back to ancient Egypt where two records of the fiscal receipts were kept independently by two officials. Historical records also show that the attest function was used in the Greek and Roman empires [Brown, 1905].

The Committee On Basic Auditing Concepts [1973] noted that the user of the financial statements may be confronted with four conditions that may bring into question the quality of information being received. These factors are as follows: (1) conflict of interest, (2) consequence, (3) complexity, and (4) remoteness [Committee On Basic Auditing Concepts, 1973].

A conflict of interest arises when the user of the financial information perceives his interest to be in conflict with the preparer of the information. As a result, the user will be concerned about bias (deliberate and unintentional) in the information given by the preparer. Therefore, the user may want the financial information to be attested by an independent third party (i.e., one who is free from a conflict of interest) [Committee On Basic Auditing Concepts, 1973].

Consequence refers to the user's utilization of the information to make decisions that are significant to the user. That is, an incorrect decision by the user is harmful to him. In this case, the user will be much more concerned about receiving quality information because misleading, biased, or incomplete information will lead to bad decisions [Committee on Basic Auditing Concepts, 1973].

As the complexity of the subject matter increases, the user of the information finds it more difficult to

evaluate the quality of the information that is being received. In addition, the possiblity of unintentional errors increases as the complexity of the subject matter increases. Therefore, the user may want the financial information to be attested by an individual who possesses a level of expertise above that of the average user [Committee On Basic Auditing Concepts, 1973].

The user of the financial information may have the ability to assess the quality of the financial information directly through his own efforts. However, due to physical distance, legal barriers, time and cost constraints, or a combination of these factors, the user may not be able to perform his own investigation [Committee On Basic Auditing Concepts, 1973].

These four factors--conflict of interest, consequence, complexity, and remoteness--

> interact in such a way that as they increase in their intensity they make it both increasingly important that an informed, independent conclusion be reached by the user as to the quality of the accounting information being received and increasingly difficult for the user of the information to reach such a determination without outside assistance [Committee on Basic Accounting Concepts, 1973, p. 10].

Therefore, these four factors create a demand for an independent party to attest the financial information. This attest function does not change the communication process shown in Figure 1, but it should assist the user in evaluating the quality of the information that is

being received [Committee on Basic Accounting Concepts, 1973].

The Commission on Auditors' Responsibilities [1978] stated that the need for the attest function arises due to the potential conflict that may exist between management and the users of the financial information. This statement should not be interpreted to imply that all management is dishonest. However, a potential bias does exist since management has discretion in the preparation of the financial information. The Commission went on to say that "the assurances provided by an audit hold significant informational value for users of financial statements" [Commission on Auditors' Responsibilities, 1978, p. 6]. This statement appears to be supported by a research study performed by Wallace [1978]. Wallace found that an audit has a favorable impact on a municipality's bond rating and net interest cost, and that this impact is reduced when the opinion is qualified.[2]

A number of research studies have investigated the effect of the different types of audit opinions on users' decisions. The results of these studies have been mixed.

---

[2]Two field experiments appear to offer counter evidence to this position. Hicks [1982] and Houghton [1983] showed that users' decisions were unaffected by whether or not the financial statements were accompanied by an audit report. However, as Houghton [1983] noted in his study, the signals from the financial data contained in the study may have overshadowed the signals emitted from the auditor's report.

However, the market studies have generally shown that a "subject to" audit opinion significantly affects investor behavior (e.g., Firth [1978], Keller [1981], Banks and Kinney [192], and Elliot [1982]). A "subject to" opinion is issued when a material uncertainty is facing the company. This uncertainty may result from litigation, valuation of assets, tax liability, and other factors [ASB, 1984, pars. 509.21-26]. Since the "subject to" report contains a material uncertainty, the unqualified opinion should give more assurance to the user. The field experiments have generally shown that a "subject to" opinion does not affect investor behavior. However, in the research studies that used this type of experimental method, the "subject to" opinion did not supply additional information to the subjects because the uncertainty was disclosed elsewhere in the financial statements. That is, regardless of whether the subjects received an unqualified opinion or a "subject to" opinion, the uncertainty was disclosed in the financial statements.

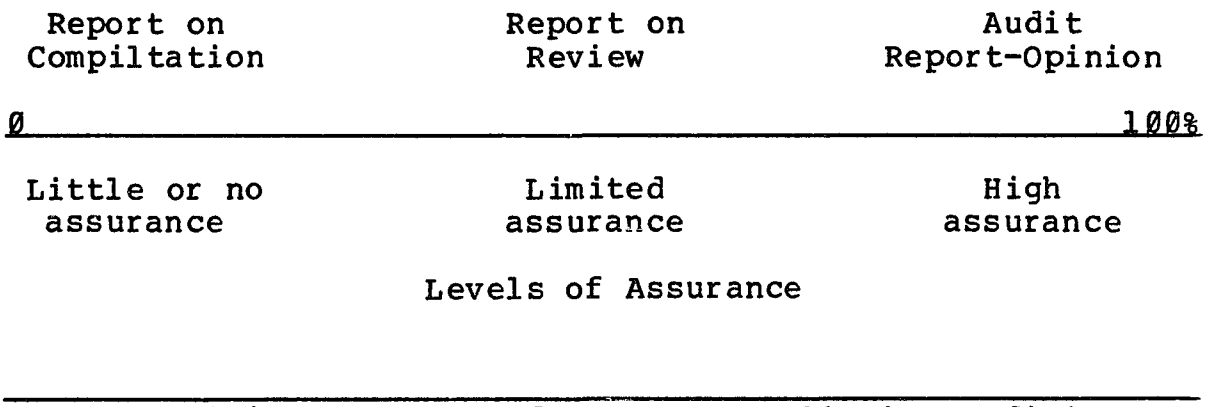
In explaining the interrelationship between financial reporting, generally accepted accounting principles (GAAP), and external auditing, Ng [1978] noted that if management's compensation was dependent on the firm's performance and if management were free to choose any financial reporting method, the one which would be the most positively biased (i.e., the method that would most overstate the

performance of the firm) and the most coarse (i.e., provide the least information) would be chosen. Users, however, would prefer a reporting method that would be as fine (i.e., provide an optimal amount of information) and as unbiased as possible. This conflict helps to explain management's normal reluctance to provide additional financial disclosures. However, "a role of GAAP is to limit the set of acceptable reporting functions from which the manager may choose" [Ng, 1978, p. 917]. For example, GAAP sets a lower bound on the amount of information disclosed in the financial statements. The audit provides a means of enforcing the compliance with GAAP. Not only does the audit function help to insure a minimum amount of disclosure, but it also provides a means of limiting the positive reporting bias.

Figure 2 illustrates graphically the various assurance levels that the financial statements are presented in accordance with GAAP. To extend Ng's theoretical model to the area of compilations and reviews, an audit should result in financial statements that have less bias and are finer than either a review or a compilation. In addition, a review should result in statements with less bias and that are finer than a compilation.

FIGURE 2

LEVELS OF ASSURANCE FOR COMPILATION, REVIEW, AND AUDITS



SOURCE: Alvin A. Arens and James K. Loebbecke, Auditing: An Integrated Approach (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1980), p. 743.

Specific Studies Relating to Compilations and Reviews

SSARS No. 1 was issued in December 1978, and it became effective on July 1, 1979. Therefore, because the statement has been in effect for less than seven years, the amount of research related to compilations and reviews is limited. These research studies are discussed below.

Arnold and Diamond

Perhaps the most ambitious study, at least as far as the quantity of information gathered, was performed by Arnold and Diamond [1981]. This study was conducted for the AICPA and was published as Auditing Research Monograph No. 4, "The Market for Compilation, Review,

and Audit Services." CPAs and bankers from eight cities from across the United States were nonrandomly selected as subjects.

The main purpose of this AICPA study was to examine the impact of SSARS No. 1. That is, this study attempted to identify the effect of SSARS No. 1 on the accounting services provided for nonpublic businesses. The results of the study showed that the CPAs and the bankers noted a shift from audited services to reviews and compilations. However, the bankers' estimates of the magnitude of the shift were much higher than the CPAs'. The bankers estimated that 20 per cent of their customers had gone from an audit to a review or a compilation, and they further predicted that 14 per cent of their current audited customers would change to a review or a compilation in the next year. On the other hand, the CPAs stated that 2.6 per cent of their clients had downgraded their services to reviews or compilations and that an additional 2.4 per cent of their audit clients would change the following year. The authors stated that the disparity between the bankers and the CPAs was the result of the responses from a minority of the bankers. In explaining this discrepancy, the researchers noted that most of the bankers and nearly all CPAs felt that there would be only a "slight amount of downgrading" in the level of accounting service [Arnold and Diamond, 1981, p. 74]. However, since such

a large discrepancy existed in the responses of the bankers and CPAs, perhaps the bankers were actually perceiving the trend to downgrade the services differently than CPAs. That is, bankers were possibly perceiving that an audit may not be as necessary as CPAs perceive it to be.

An interesting result from this study is the ranking of factors that bank loan officers considered important in recommending the minimum level of accounting service that a prospective customer should obtain. The bankers were asked to rank 13 factors as to their relative importance in a loan decision. The number of bankers responding totaled 133. The size of the loan was ranked first by the bankers, while the current capital structure of the loan applicant was ranked second. The results of this question are shown in Table 2 on the following page. Arnold and Diamond also broke the responses of the bankers into regions--Northeast, Southeast, Midwest, and Far West. Loan size was ranked first in all of the regions. However, some minor differences between the regions existed in the ranking of some of the other factors.

TABLE 2

SELECTION OF LEVEL OF SERVICES
RANKING OF FACTORS FOR A
PROSPECTIVE CUSTOMER

Factors in Considering the Type of Service	Aggregate	City Size	
		Large	Small
Loan size	1	1	1
Customer's current capital structure	2	2	2
Reputation of the customer	3	3	4
Nature of the loan (e.g., line of credit, term loan)	4	4	3
Customer's size	5	5	6
Relative degree of assurance provided by the type of accounting service	6	8	5
Nature of the customer's business	7	6	7
Reputation of the current outside accountant	8	7	9
Profitability	9	9	8
Current general credit and economic situation	10	10	11
Competitive environment for credit	11	11	10
Relative costs of the services to the customer	12	13	12
Customer's willingness to change accountants	13	12	13

SOURCE: Jerry Arnold and Michael A. Diamond, "The Market for Compilation, Review, and Audit Services," Auditing Research Monograph No. 4 (New York: American Institute of Certified Public Accountants, Inc., 1979), pp. 60-61.

Bailey, Bylinski, and Shields

Bailey, Bylinski, and Shields [1984] performed a study on "The Comparative Perceived Messages of Audit, Review and Compilation Reports." The purpose of this study was to test Big-8 auditors' and bank lending officers' perceptions of the compilation, review, and audit reports. Four hypotheses were tested in this study. The hypotheses were as follows:

> H1: Audit, review, and compilation reports convey different messages.
>
> H2: Big-8 auditors' perceptions of the messages of audit, review and compilation reports vary as a function of the context within which a nonpublic company secures the report service (loan application vs. equity investment).
>
> H3: Bank lending officers' perceptions of the messages of audit, review and compilation reports vary as a function of the size of the accounting firm that issued the report (Big-8 vs. large local).
>
> H4: Bank lending officers and Big-8 auditors perceive the same messages from a set of audit, review and compilation reports. [Bailey, Bylinski, and Shields, pp. 3-5]

The subjects for the study consisted of 60 auditors from five Big-8 CPA firms in North Carolina and 56 bank lending officers from five banks in North Carolina and Georgia. The subjects were not randomly selected. The experiment mainly consisted of two tasks. In the first task, the subjects were presented with 12 types of accounting reports ranging from an unqualified audit opinion to a compilation report in which there was a

departure from GAAP. The subjects were asked to rate the similarity of approximately 33 pairs of the reports on a scale from 1 to 15. For example, they may have been asked to compare a compilation report with a qualified audit opinion because of a departure from GAAP. In the second task, the subjects were asked to rate each of the 12 reports for certain attributes such as the usefulness of the report, the level of knowledge and integrity with which the accountant prepared the report, and other qualitative characteristics.

The results of this experiment showed that the audit, review, and compilation reports were perceived as conveying different messages, which supports H1. The next two hypotheses, H2 and H3, were rejected. That is, the Big-8 auditors' perceptions of the messages from the types of reports did not vary as a function of the report service, and the bank lending officers' perceptions of the messages from the types of reports were not dependent upon whether the auditor was a Big-8 firm or a large local firm. The results were inconclusive concerning the fourth hypothesis, which was whether Big-8 auditors and bank lending officers were perceiving the same messages from the reports.

Edmonds, Porter, and Weiss

Edmonds, Porter, and Weiss [1981] also surveyed bank lending officers and CPAs. The main purpose of

their study was to examine whether bankers correctly interpret messages contained in the compilation, review, disclaimer of opinion, and audit reports. A total of 500 questionnaires were sent to the two groups (i.e., 250 to CPAs and 250 to bank lending officers) to test their perceptions concerning the reports of a compilation, a review, a disclaimer, and an unqualified opinion. The subjects were randomly selected and approximately 48 per cent of the bankers and 41 per cent of the CPAs replied. The subjects were given an example of each of the four types of reports and then were asked to respond on a seven-point scale to a series of questions concerning their perceptions of the messages from the reports. The questions dealt with such items as the procedures that the accountant performed, the confidence in the fairness of the statements that the accountant is expressing through his report, the amount of management bias, and the quality of the company as a loan prospect.

Although statistical analysis was not performed, the researchers concluded that the CPAs and the bankers had similar perceptions regarding the messages contained in each of the four types of reports. That is, both groups considered financial statements that are accompanied by an unqualified opinion to be more reliable, to contain less management bias, and to increase the quality of the company as a loan prospect, than when the statements

are accompanied by either a review, a compilation, or a disclaimer. A review also rated higher on the qualitative attributes than a disclaimer or a compilation.

While agreement existed between the bankers and CPAs concerning the hierarchical order of the reports, disagreement existed among their responses to the questions. For example, the bankers felt more strongly than the CPAs that the quality of the company as a loan prospect was directly affected by the type of report. Disagreement on this question, as well as some of the other questions, led the researchers to state that the bank lending officers considered the type of accounting report to be a more important variable than the CPAs perceived the report to be in a bank lending decision.

Hicks

Hicks [1982] attempted to examine the effect of several different types of accounting reports on the perceptions and decisions of commercial bank lending officers. The subjects were 348 bankers from 78 banks. Each subject received a set of financial statements for a hypothetical company. One of six types of reports--disclaimer of opinion, adverse opinion, "except for" qualified opinion, "subject to" qualified opinion, review report, or unqualified opinion--accompanied the financial statements. A control group, which did not receive any type of accountant's report, was also used in the study.

The respondents were asked to state their (1) perceptions on the risk of default and the reliability of the financial statements and (2) recommendations on the amount to loan the company and the interest rate to be charged.

The results of the study showed that the type of accounting report did not affect the lending decisions. However, the banker's perceptions concerning the reliability of the financial statements were affected by the type of report. Specifically, bankers perceived the financial statements to be more reliable when accompanied by an unqualified or a qualified opinion than when the statements were accompanied by a review report. Hicks did not include a compilation report in her study.

Johnson, Pany, and White

The purpose of the Johnson, Pany, and White [1983] study was to test whether the type of accountant's report, or lack of a report, significantly influences the perceptions and the decisions of bankers on loan applications. Six hundred loan officers were randomly selected, and each one was presented with a set of financial statements and background information for a fictitious company seeking to borrow $660,000. The company was a closely-held men's clothing store. The bankers also received one of four types of CPA association--a compilation, a review, an audit, or no association. These four levels of accountant association represented the four levels of the independent

variable. The researchers used five dependent variables, which were grouped into two categories--action variables and perception variables. The action variables were (1) whether or not the subject would grant the loan and (2) the interest-rate premium that the loan officer would recommend. The perception variables were (1) conformance with GAAP, (2) freedom from the effects of fraud, and (3) freedom from the effects of clerical errors. Responses for these perception variables were based on an eleven-point scale ranging from "no confidence" to "extreme confidence." The total response rate was 16.3 per cent.

The findings of the study showed that the level of CPA association did not affect the action variables, but did affect the perception variables. That is, the loan granting decisions were not affected by the type of accountant's report. The authors speculated that this result may have been due to the small sample size or some unkown feature in the loan scenario that may have overridden the effect of the accountant's report. The difference in the perception variables occurred mainly between the audit and the other three forms of CPA association. A statistically significant difference was noted on all of the perception variables (i.e., in accordance with GAAP, free of clerical errors, and free of fraud) between an audit and the other three levels of association. However, a statistically significant

difference was not noted between a compilation and a review on any of the perception variables. The perceptions of the bankers pertaining to no CPA association differed from a compilation and a review only for the perception variable dealing with whether the the financial statements were presented in accordance with GAAP.

Mayper, Welker, and Wiggins

Mayper, Welker, and Wiggins [1984] conducted a study investigating the perceptions of CPAs and bankers on the compilation and review reports. These researchers also included a third level of CPA assurance in their study which they called compilation plus review. SSARS No. 1 states that "when the accountant performs more than one service (for example, a compilation and an audit) he should issue the report that is appropriate for the highest level of service rendered" [ARSC, 1978, par. 5]. The authors felt that perhaps CPAs provide a higher level of assurance when they both compile and review the financial statements than when they just perform a review.

To evaluate CPAs' and bankers' perceptions on the compilation and review reports, telephone interviews were conducted by several graduate accounting students. The students telephoned 111 CPAs and 47 bankers, all of which resided in the state of Texas. From these interviews, the researchers were able to use 60 of the CPAs' responses and 36 of the bankers' responses. During the

telephone conversations, the subjects were given a brief scenario about a closely-held corporation with sales of $1,000,000 that was seeking a working capital loan of $100,000. The subjects were also told that the company had good internal accounting control. The subjects were then asked some brief questions about the assurance levels contained in the accountant's report. In addition, the CPAs were also asked about the cost of the engagement relative to an audit and about their opinion of the banker's perceptions of the assurance level.

The results of the experiment showed that the type of accounting service--compilation, review, and compilation plus review--does significantly affect both the CPA's and the banker's perceptions concerning the level of assurance that the financial statements do not contain any material departures from GAAP. Specifically, a review provides 65 per cent of the assurance level of an audit, a compilation provides 43 per cent of the assurance level of an audit, and a compilation plus a review provides 80 per cent of the assurance level of an audit. The results also showed that a review costs about 44 per cent as much as an audit, a compilation costs 24 per cent as much as an audit, and a compilation plus a review costs 62 per cent of an audit. Finally, the results indicated that CPAs believed that bankers place a greater

amount of assurance on the compilation report than is appropriate.

Rankin

Rankin [1982] performed a study to test the effectiveness of the communication process between CPAs and bankers. This communication process was investigated by randomly selecting 200 CPAs, 130 commercial bank loan officers, and 70 chief executive officers from small banks. All of these subjects resided in the state of Michigan. A survey instrument was sent to each subject questioning them on their perceptions of the reliability of financial statements when accompanied by a compilation, a review, an audit, and no CPA report. Following each of these four forms of CPA association, the subjects were asked to answer six questions about the reliabiltiy of the financial statements. Therefore, a repeated measures design was used. Rankin used a seven-point scale for the responses in which the answers ranged from "no confidence" to "complete confidence." These questions dealt with conformity to GAAP, the independence of the CPA, and freedom from errors, bias, and fraud. The response rate was 60 per cent for the CPAs, 78 per cent for the commercial bank lending officers, and 41 per cent for the chief executive officers. The commercial bank loan officers were selected from the 70 largest Michigan banks. A postcard reminder was sent to this group one week after

the questionnaire was mailed. A second questionnaire was sent to the nonrespondents three weeks after the initial questionnaire was sent. Approximately five weeks after the second mailing, a third questionnaire was sent with a cover letter from the major professor of his dissertation committee.

The results of the survey showed that Michigan CPAs' and bankers' views about the reliability of the financial statements differed. For each type of report, the CPAs gave a higher level of assurance to the reliability of the financial statements than the bankers. The results also showed that Michigan bankers and CPAs perceive differences in the levels of the CPA's association. The subjects' responses showed that financial statements accompanied by an audit were more reliable than statements accompanied by any other type of report. In addition, they felt that statements accompanied by a review report were more reliable than statements covered by a compilation.

Reed

Reed [1981] performed a study which examined the procedures performed by accountants in compilation and review services and the perceptions that bankers have of those procedures. Questionnaires were sent randomly to CPA firms and bank commercial loan officers. The accountants returned 131 of the questionnaires, and the bankers returned 191.

The results of the study showed that bankers' and accountants' views of the procedures performed for compilation and review services were different. The accountants had a wide diversity in the procedures that they performed for compilations and reviews, but they tended to avoid using audit type procedures for both levels of service. The bankers, also, perceived a wide diversity in the procedures being performed by the accountants. Generally, bankers tended to perceive that fewer procedures were being performed than the accountants actually used in performing the service. For example, bankers did not perceive the extended use of inquiry procedures by the accountant in a review engagement. However, at the other extreme, some bankers felt that audit type procedures were being performed for both the compilation and the review. The researcher concluded that bankers did not fully understand the procedures performed by the accountant in a review engagement.

Strupeck and Figlewicz

Strupeck and Figlewicz [1984] performed a study to determine when a compilation or review might be accepted by a bank in lieu of an audit. The factors that the researchers investigated were size of loan, size of borrower, size of the bank, and customer composition of the bank. A one-page questionnaire was sent to 147 chief loan officers residing in Southwest Michigan and

Northwest Indiana. The questionnaire contained an example of a compilation report and a review report and asked the subjects to disclose their bank's policies on compilations and reviews based on the size of the borrower and the size of the loan. The subjects were also asked to supply additional information about the size of the bank and the composition of the bank's customers (i.e., commercial vs. noncommercial). Fifty bankers responded, which represented a 34 per cent response rate. Of the fifty bankers that responded, 17 loan officers indicated that their banks did not have a policy as to when compilations and reviews would be acceptable.

The results from this survey indicated that both the size of the borrower and the size of the loan were important variables in determining the type of service required for a potential borrower. For the banks which had a policy on compilations and reviews, more than 75 per cent were willing to accept a compilation or a review for small business customers (assets of $100,000 or less). For a medium size business (assets between $100,000 and $500,000), 73 per cent of these banks would accept a review and 33 per cent would accept a compilation. For a large customer (assets over $500,000), less than 25 per cent of the banks having a policy will accept reviews and less than 3 per cent will accept compilations. However, nearly all of these bankers stated that the loan size

was a more important variable than the size of the business. The respondents also noted that other factors were considered important in making a loan decision. These factors were: "(1) quality of management, (2) type of business, (3) type of security, (4) bank's opinion of and experience with the borrower, and (5) the CPA firm conducting the services" [Strupeck and Figlewicz, 1984, pp. 5].

Limitations of Prior Research

Some of the limitations of the previous research studies are shown in Table 3, which appears on the following page. The table is designed so that a "no" represents a weakness in the research study.

One weakness in the prior research studies was that a realistic setting was not created for the subjects. Research studies on compilations and reviews have generally focused on the perceptions, rather than on the decisions, of the user. In these research studies on users' perceptions, the subjects were presented with a series of short questions that were designed to gather information about the attitudes of the respondents. That is, a survey type of research approach was taken. The subjects were not presented with financial statements to analyze and no attempt was made to place the subjects in a realistic setting (except for the Hicks [1982] and the Johnson, Pany, and White [1983] studies). This type of research often gives some interesting insights, but as Carmichael

TABLE 3

LIMITATIONS OF THE PREVIOUS RESEARCH
ON COMPILATIONS AND REVIEWS

Previous research	Were users placed in a realistic setting?	Were any independent variables manipulated besides the type of report?	Were users required to make any financial decisions?	Were inferential statistics applied to the data?
Arnold and Diamond [1981]	no	no	no	no
Bailey et al. [1984]	no	yes	no	yes
Edmonds et al. [1981]	no	no	no	no
Hicks* [1982]	yes	no	yes	yes
Johnson et al. [1983]	yes	no	yes	yes
Mayper et al. [1984]	no	yes	no	yes
Rankin [1982]	no	no	no	yes
Reed [1981]	no	no	no	yes
Strupeck and Figlewicz [1984]	no	no	no	no

*Hicks did not include a compilation report in her study.

[1979] states, it is superficial. Survey research measures speech reaction (hypothetical thinking), and not much can be learned from an experiment in which the subject takes a minute or two to select an answer from a list of alternatives [Carmichael, 1979]. In addition, this type of research gives the subjects bits and pieces of information, but users do not receive information in bits and pieces [Bailey, 1982].

Another weakness of the previous studies was the failure to include any independent variables besides the type of accounting report. Only Bailey, Bylinski, and Shields [1984] and Mayper, Welker, and Wiggins [1984] manipulated other variables. Both of these studies dealt with users' perceptions. Bailey, Bylinski, and Shields [1984] included type of accounting firm (Big 8 vs. large local) and type of context (loan application vs. equity investment) within which the company secured the accounting service. Mayper, Welker, and Wiggins [1984] included the length of CPA service to the client as an independent variable. The results from the studies by Arnold and Diamond [1981] and Strupeck and Figlewicz [1984] suggested that other factors, such as the size of the loan, were very important in considering the effect of the type of report on the lending decision. The two studies (Hicks [1982] and Johnson, Pany, and White [1983]) that examined the effect of the type of accounting service

on users' decisions found that the type of report did not influence the users' decisions. This result may have occurred because the type of report may not have contained sufficient information to alter the users' decisions in the experiments. In other words, the signal from the types of reports were not sufficiently loud to overcome the signal emitting from the other financial information [Houghton, 1983]. The size of the loan, the capital structure, or some other factor of the hypothetical company used in the study may have been such that the type of accounting report did not affect the loan officers' decisions.

In addition, in most of the studies, the subjects received or were asked to comment on more than one type of report. Only Johnson, Pany, and White [1983], Hicks [1982], and Mayper, Welker, and Wiggins [1984] asked their subjects to respond on only one type of accounting report. Therefore, it is not surprising that in most of the studies the subjects perceived that audited financial statements were more reliable than statements accompanied by a review or compilation report, and a review was perceived to be more reliable than a compilation. These results were biased because the subjects could compare the reports.

Other Related Studies

Although three other studies did not examine the types of reports called for in SSARS No. 1, they did examine various levels of CPA association. These three studies were performed by Pany and Smith [1982], Johnson and Pany [1984], and Carter [1984].

Pany and Smith [1982] examined the effect of various levels of auditor association with quarterly financial information on financial analysts' perceptions. Four forms of association were tested ranging from no auditor association to a "full audit." More specifically, the four levels were (1) no auditor association, (2) auditor association through a footnote which stated that a limited review would be performed at year-end, (3) a limited review performed at the end of the quarter, and (4) an audit. The subjects for the study were 57 financial analysts from five commercial banks located in a midwestern city. The subjects were asked to respond on an 11-point scale varying from 0 (no confidence) to 10 (complete confidence) as to whether the given financial information was free of accounting errors. This financial information included such items as sales, net income, and earnings per share. The main independent variable was the form of auditor association. The results showed that the financial analysts' perceptions were significantly different between no auditor association and the other three levels

of auditor association. However, the subjects' generally did not perceive a difference between the three levels of auditor association. This result suggests that the financial analysts may have had trouble distinguishing between various levels of auditor association [Pany and Smith, 1982].

Another empirical study pertaining to various levels of auditor association was performed by Johnson and Pany [1984]. In this study, the effect of auditor association with forecast information was examined. Two levels of auditor association were used as an independent variable in this study. The two levels were no auditor association and a review. Bank loan officers and CPAs were used as the subjects for the study. Both the CPAs and the bankers were asked to respond to questions dealing with the accuracy of the forecast information. An 11-point scale was also used in this study in which the possible responses varied from Ø (no confidence) to 1Ø (extreme confidence). The financial information included three years of statements of financial position, changes in financial position, and earnings, and one year of forecasted statements. Specifically, the subjects were also asked to make a loan decision regarding $66Ø,ØØØ that the hypothetical company was seeking to borrow. The bankers were asked to state whether or not they would grant the loan and the interest rate premium (above prime) that

they would charge the customer. The results from the experiment showed that both the CPAs and the bankers showed greater confidence that the forecasted information would be free from clerical errors and more accurate when the information was reviewed by a CPA. However, the loan officers showed less confidence than the CPAs in the accuracy of the forecasted information and in the freedom from clerical errors. The loan officers' decisions regarding whether to loan the company the $660,000 and the interest rate that should be charged were not affected by the level of the CPA's association.

Carter [1984] examined the effect of a review of financial forecasts on some lending decisions. Three groups were sent questionnaires. Group 1 was sent a questionnaire that contained no review report on the forecasts. Group 2 received an unqualified review report on the forecasts, and Group 3 received an adverse review report. The results indicated that the review report on the financial forecasts did not affect the bank lending decisions. The researcher concluded that reviews on financial forecasts were relatively unimportant to the bank lending decision because bank loan officers relied more on historical financial statements and other non-financial factors than on forecasts.

Factors Affecting a Lending Decision

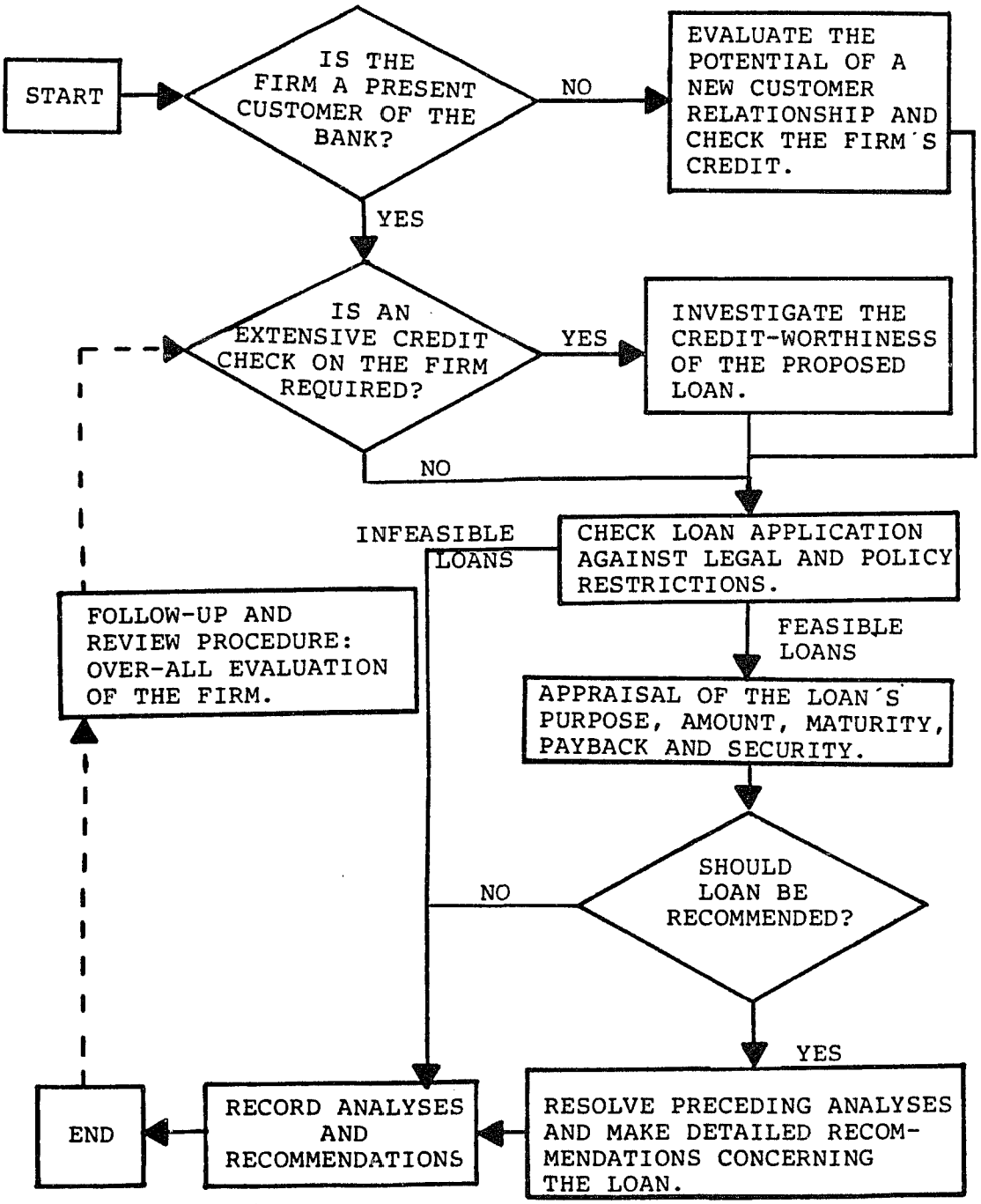
As noted earlier in the chapter, financial information has been shown to affect users' decisions. However, exactly what financial information affects bankers' decisions has not really been clarified thus far in this paper. In addition, other factors besides financial information affect users' decisions. The purpose of this section of the paper is to discuss the factors that influence bank lending decisions.

At present, there appear to be "no explicit models used by bank lending officers for their decisions" [Stephens, 1980, p. 74]. However, this statement does not imply that information concerning the bank lending decision process is unavailable nor does it imply that no models exist. In fact, bankers appear to act fairly similar in their decision making process [Stephens, 1980]. Cohen, Gilmore, and Singer [1966] state that the lending decision is a sequential process in which the lending officer uses a particular set of heuristics. They provided a descriptive model of bank procedures for analyzing business loan applications, which appears in Figure 3.

As demonstrated in Figure 3, the banker considers many qualitative factors as well as quantitative factors. For example, in making the lending decision, the banker will attempt to answer such questions as the following:

FIGURE 3

BANK PROCEDURES FOR ANALYZING BUSINESS LOAN APPLICATIONS



SOURCE: Kalman J. Cohen, Thomas C. Gilmore, and Frank A. Singer, "Bank Procedures for Analyzing Business Loan Applications," Analytical Methods in Banking (Kalman J. Cohen and Frederick S. Hammer, eds.), p. 224.

1. If the firm is presently not a bank customer, what is the potential of a new customer relationship?
2. Is this firm a sound credit risk?
3. Will a customer relationship with this firm be profitable?
4. Will a customer relationship with this firm "build" the bank?
5. Was the loan recommended by a correspondent bank?
6. What is the competency of the management of the firm?
7. What is the proposed amount and maturity of the loan?
8. Does the loan meet the bank's policy and legal requirements? [Cohen, Gilmore, and Singer, pp. 222-242]

Stephens [1980] utilized the Delphi method to determine the role of financial information in the decision processes of bank lending officers. The subjects for the study were 29 bank lending officers. These bankers were presented with a wide-range of informational items (a total of 58) and then asked to state the importance of the items in a lending situation. The informational items that were considered to be the most important by the bankers were as follows:

1) total assets
2) total current assets
3) total current liabilities
4) inventory and its valuation method
5) shareholders' equity and number of common shares
6) revenue and revenue recognition method
7) operating income
8) amount and breakdown of expenses
9) cost of goods sold
10) source and application of funds statements
11) extent of dependence on a few customers
12) cash flow projections for the next two to five years.

Orgler [1975] developed a credit-scoring model for commercial loans by examining bank examiners' loan reviews in 100 commercial banks. He examined the effect of a number of factors on the quality of a loan. These factors, which included various borrower characteristics and past loan performance, were the independent variables in the study. The loan quality, which was the dependent variable, was determined by the evaluation of the loan by the bank examiners. Orgler [1975] noted that a study performed by Wu [1969] showed "that examiners' criticism of business loans is a good predictive measure of loan quality" [Orgler, 1975, p. 59]. The loan quality was stated as either good or bad. Orgler [1975] found the following independent variables to be significant at the .05 level: (1) past due, (2) audit, (3) net profit or net loss, (4) working capital/current assets, and (5) criticism by examiner during last examination.

Some other research involving bank lending officers in the area of human information processing in accounting include studies performed by Casey [1980], Zimmer [1980], Libby [1975], and Abdel-khalik and El-Sheshai [1980]. These studies dealt with the bankers' use of accounting information (specifically, accounting ratios and trends) in predicting company failures. Generally, these studies showed that bank lending officers were fairly accurate in predicting a firm's failure. In the Abdel-khalik

and El-Sheshai [1980] study, the subjects purchased the financial information that they felt would be the most important in determining predictions. The most frequently purchased ratios and trends were earnings trend, total debt to total assets, current ratio, trend in cash flow to total debt, cash flow to total debt, quick ratio, current ratio trend, and long-term debt to net worth. Although the subjects purchased additional cues, a banker's accuracy was not improved in predicting whether the businesses would fail [Libby, 1982].

Another factor, which may affect the bankers' lending decision, is auditor size. Some researchers have presented arguments that large CPA firms may provide audits that are to be perceived to be of a higher quality than audits performed by smaller firms [Nichols and Smith, 1983]. For example, DeAngelo [1981] argues that:

> . . . size alone alters auditors' incentives, such that, ceteris paribus, larger audit firms supply a higher level of audit quality. When audit technology is characterized by significant start-up costs, incumbent auditors earn client-specific quasi-rents. These quasi-rents, when subject to loss from discovery of a lower quality audit than promised, serve as collateral against such opportunistic behavior. This implies that, ceteris paribus, the larger the auditor as measured by number of clients, the less incentive the auditor has to behave opportunistically and the higher the perceived quality of the audit. [DeAngelo, 1981, p. 184]

In other words, the larger the audit firm, the more the firm has to lose from providing a low quality audit.

In addition, the lower the percentage of total audit fees supplied by a client, the more independent the firm becomes. That is, perceived independence of the auditor is inversely related to the percentage of fees supplied by the client [DeAngelo, 1981]. Dopuch and Simunic [1980] also noted that entry into the accounting profession is relatively easy, especially in comparison with some other professions such as medicine. This fact characterizes an auditing practice which provides differing levels of quality.

Companies going public often switch to a Big Eight accounting firm. Of course, other reasons exist for a company to change accounting firms, such as expertise in preparing SEC documents [DeAngelo, 1981]. Bankers and underwriters feel that Big Eight accounting firms add credibility to the financial statements. In fact, underwriters often insist on a large accounting firm for public stock offerings. Bob Pangia, vice-president of Kidder, Peabody's technology group stated that "to reduce uncertainty, you shoot for a large firm" [Sammons, 1984, p. 78]. In the Strupeck and Figlewicz [1984] survey, bankers noted that the CPA firm conducting the accounting service was considered an important factor in making a lending decision.

A few empirical studies have been performed to test whether the size of the auditor affects the quality of

the audit. In an ex post facto study, Wallace [1978] showed that the size of the auditor significantly improved the net interest cost and the bond rating for municipalities. That is, a Big Eight firm had a favorable impact over other CPA firms. In another study involving municipalities, Wilson [1982] also demonstrated that a significant relationship existed between bond ratings and type of auditor--Big 8 versus non-Big 8. Nichols and Smith [1983] examined the market reaction to a change in auditors. The results from this study showed that a switch from a non-Big Eight auditor to a Big Eight auditor resulted in a positive market reaction and a change from a Big Eight auditor to a non-Big Eight auditor had a negative impact. However, the market reaction was not statistically significant.

A field experiment performed by McKinley, Pany, and Reckers [1985] examined the effect of the size and type of CPA firm on a lending decision. The researchers included three levels for type/size of CPA firm. These levels were (1) Big 8--large size office (450 professionals), (2) Big 8--medium-size office (60 professionals), and (3) local--medium-size office (60 professionals). The results showed that the type/size of the CPA firm did not affect the bankers' lending decisions. However, the loan officers perceived financial statements audited by a Big-8 firm to be more reliable than financial statements audited by a medium-sized local CPA firm. The results

also showed that financial statements audited by a medium-sized local firm were less likely to include undetected fraud than financial statements audited by a medium-sized Big 8 firm. This finding is in direct opposition to the theories presented by DeAngelo [1981] and Dopuch and Simunic [1980]. McKinley, Pany, and Reckers did not include a review or a compilation report in their study.

CHAPTER 3

RESEARCH METHODOLOGY

This chapter discusses the methodology that was used to test the effect of the accountant's report on a bank lending decision. In order of presentation, the methodological topics are: the research questions, the experimental task, the variables, the hypotheses, and the statistical analysis.

Research Questions

The major research question of this paper is as follows:

1. Does the type of accounting service, and consequently the type of report, affect a bank lending officer's decisions (i.e., loan size and interest rate) in granting a line of credit?

As a result of investigating the above question, some ancillary questions were also examined. These questions

include the following:

2. Does the size of the accounting firm providing the accounting service affect a bank loan officer's line of credit decisions?

3. Does the strength of the firm's capital structure affect a bank loan officer's line of credit decisions?

4. Can the bank lending officer distinguish between the types of accounting service as to the amount of responsibility the accountant is assuming for the financial statements?

5. Can the bank lending officer distinguish between the types of accounting service as to the amount of assurance the accountant is providing that the financial statements are presented in accordance with GAAP?

6. Can the bank lending officers distinguish between the types of accounting service as to the amount of different types of testing (i.e., analytical review, inquiries, compliance, and substatantive) that was performed by the accountant?

Experimental Task

The discussion of the experimental task is divided into three areas. In order of presentation, these topics are: the sample, the sample size, the questionnaire, and the mailing procedures.

The Sample

The subjects for the experiment were bank loan officers. Bank lending officers are seen as being one of the main users of the compilation and review reports [Johnson, Pany, and White, 1983], and they should make good subjects because they:

1) rely on accounting data in decision making;
2) analyze financial statements with considerably more sophistication than other large user groups; and
3) play an influential role in economic resource allocation. [Casey, 1980, p. 37]

In addition, past studies (Fess and Ziegler [1977] and Brenner [1971]) have shown that nearly all bankers at least read the accountant's report (i.e., the audit opinion) and that most read it carefully.

The size of the sample was determined after a pretest of the research instrument. Twenty-two bank lending officers participated in the pretesting. These bankers worked either in Texas or Kansas. Based upon the results of the pretest, it was determined that a sample size of 35 per cell would be needed to detect a significant difference in at least one of the main response variables (i.e., interest rate or loan size). This sample size estimate was based on alpha and beta levels of .05 each. The actual average number of respondents for this study was slightly more than this estimate.

The sample was selected from two sources: the School of Banking of the South (SBS) and a list of Federal Reserve Banks. SBS conducts yearly training programs for commercial bank lending officers and other bank officers. Bankers from over 20 states attend this school. Although SBS is not affilitated with Louisiana State University (LSU), the classes are held

annually on the campus of LSU, and some of LSU's finance professors teach some of these classes. Because of the indirect affiliation between SBS and LSU, it was felt that the response rate would be increased if these bank loan officers were used as subjects. Therefore, to decrease the nonresponse bias, a mailing list of commercial bank lending officers was purchased from SBS. This mailing list contained names of 636 commercial bank loan officers from 22 states.

The rest of the sample was selected from the Federal Reserve's Branch Bank Master File list (dated June 30, 1985). The sample was selected from 13 states--Alabama, Arkansas, Florida, Georgia, Illinois, Kentucky, Louisiana, Missouri, Mississippi, Oklahoma, South Carolina, Tennessee, and Texas. These 13 states were selected based on the fact that nearly all (i.e., over 94 per cent) of the commercial bank lending officers on the list obtained from SBS worked in these states.

Banks that had less than $50,000,000 in assets were eliminated from the list of federal reserve banks because it was felt that bank loan officers from larger banks would be better equiped to handle the research task. Loan officers from small banks probably deal with their customers more on a personal level and perhaps do not receive loan applications from companies that they have not heard of before as often as lending officers

from larger banks. Lending officers from smaller banks also normally have limited experience with audited financial statements and with large international CPA firms [Libby, 1979].

After eliminating the banks with less than $50,000,000 in assets, 2400 banks remained on the list. This list was then compared to the list of banks obtained from the SBS. Any bank name appearing on both lists was deleted from the Federal Reserve list. These banks were taken off the list to avoid the possibilty of a bank officer responding to more than one questionnaire.

After making these eliminations, two random starts were selected and every ninth bank from each starting point was selected. A systematic sampling plan was selected because it was easier to select the sample and it had a "built-in stratification" [Snedecor and Cochran, 1982, p. 449]. Since the list of federal reserve banks was arranged in zip code order, a systematic sample resulted in a proportionate number of banks selected from each state. A total of 490 bank names were obtained from the list.

The Questionnaire

The first two pages of the questionnaire (see Appendices D, E, F, and G for an example of the questionnaires) contained the accountant's report and eight questions about the perceptions of the bankers about

the report. Two purposes were accomplished by asking these questions on the first 2 pages. First, these questions relate only to the accountant's report, and not to any other information contained in the research instrument. Therefore, the information contained in the rest of the questionnaire was not pertinent to answering these questions. Second, these questions should have focused the respondent's attention on the accountant's report, which was the main manipulative variable in this experiment.

On page three of the questionnaire, the loan officer was asked to make two decisions on an application for a line of credit. These two decisions were the amount to lend and the interest rate to charge.

The fourth page included footnotes to the financial statements, a brief description of the company and the principal owner, and some key financial ratios of the company along with industrial averages computed by Robert Morris Associates (RMA).

Pages five and six of the questionnaire contained the financial statements. The financial statements included two years of balance sheets, statements of income and retained earnings, and statements of changes in financial position. As will be explained in more detail later in this chapter, the financial statements were obtained by using ratio averages computed by (RMA).

Pages 4, 5, and 6, contained most of the financial informational items that bankers find as being the most important in a bank lending decision [Stephens, 1980]. Stephens utilized the Delphi method to determine the role of financial information in the decision processes of bank lending officers. These items are listed on page 55. The questionnaire does not include cash flow projections for the next two to five years, which was considered important in the Stephens study. However, this item was deemed unnecessary after discussing the questionnaire with some commercial loan officers. In addition, Carter [1984] found that financial forecasts did not impact bank lending decisions. He concluded that the historical financial statements and other non-financial information overshadowed the effect of the financial forecasts. Cohen, Gilmore, and Singer [1966] also noted that the potential of a new customer relationship was important in a lending decision. Therefore, this potential was noted in the description of the company.

On the seventh and last page, some background data was requested from the respondent. This data included the respondent's experience and education, the size of the bank, and the method by which loans are approved at the respondent's bank. In addition, the bankers were asked to rate the capital structure of the company without turning back to the previous

pages in the questionnaire. This question provided a validity check on the subjects' responses.

The Mailing Procedures

To increase the response rate, follow-up procedures on the initial mailing were employed. A stamped post card was placed in the envelope containing the initial questionnaire. The subjects were asked to put their name and address on the back of the post card if they wanted to receive the results of the study. A post card reminder (see Appendix B for an example) was mailed to the sample group one week after the initial mailing. Then, two weeks after the inital mailing of the questionnaire, a second questionnaire was mailed to the subjects who did not write to request the results of the study. If the subject wrote to request the results of the study, it was assumed that they also responded to the questionnaire. During the first two weeks after the initial mailing of the questionnaire, the number of post cards returned was approximately equal to the number of questionnaires returned. Thus, it appeared that those who requested the results of the survey also responded to the survey.

The Variables

Three independent variables and ten dependent variables were used in this study. This section will

discuss these variables and the justification for including them in the study.

The Independent Variables

The basic research design is a 3x2x2 factorial, illustrated in Table 4. The independent variables, which are represented in the columns of the table, include (1) the type of accountant's report, (2) the size of the CPA firm, and (3) the capital structure of the business that is applying for the loan.

The type of accountant's report. The type of report was the main independent variable and focal point of this study. The levels for this variable are--an audit report, a review report, a compilation report, and no accountant's report. Prior research has not shown that the type of accounting service significantly affects users' decisions (see Chapter 2). However, different messages are intended by the various types of reports. Per examination of SSARS and Statements on Auditing Standards, the accountant assumes more responsibility for and gives more assurance on financial statements that are accompanied by an audit than a review, and a review than a compilation. By studying this variable, some insight to the informational content value of these reports on a comparative basis should be gained.

TABLE 4

RESEARCH DESIGN

Type of Report	Type of CPA Firm	Capital Structure
Audit	International	Strong
		Weak
	Small Local	Strong
		Weak
Review	International	Strong
		Weak
	Small Local	Strong
		Weak
Compilation	International	Strong
		Weak
	Small Local	Strong
		Weak
No Accountant Association	None	Strong
		Weak

Prior studies have not shown that the level of accountant's association affects user decisions. A potential explanation for not finding a decision impact may be due in part to the methodological designs of the prior studies. This study attempts to improve on those designs by including two additional independent variables that have an impact on user decisions, and thereby decrease the experimental error of the model.

The size of the CPA firm. The CPA firm's size was the second manipulative variable. As noted in Chapter 2, some researchers have presented theoretical arguments that large CPA firms provide audits which are perceived to be of a higher quality than audits performed by smaller firms. Most of the evidence in support of these arguments is anecdotal. The number of research studies investigating the effect of the size of the CPA firm has been limited. However, Wallace [1978] and Wilson [1982] showed that the size of the auditor significantly affects bond ratings for municipalities. McKinley, Pany, and Reckers [1984] also found that the type of CPA firm did affect the perceptions of loan officers on audited financial statements. The effect of the size of the accountant on users' decisions has not been tested in the context of the compilation and review reports. The Strupeck and Figlewicz [1984] survey found that bankers indicated the CPA firm providing the service was an important factor in making a lending

decision. The size of the accounting firm was manipulated at two levels--large international and local. Since the effect of this variable on a lending decision is virtually unknown, the size of the accounting firm was manipulated at two quite different levels. The local CPA firm was described in the questionnaire as a local CPA firm, whose reputation was unknown to the bank lending officer.

The capital structure. The capital structure of the company was the third independent variable. The results of the Arnold and Diamond [1981] study indicated that the customer's current capital structure was rated by bank lending officers as the second most important variable in selecting the type of accounting service for a prospective customer. Loan size was ranked first. Because of the importance of the capital structure, it was included in this study. As in the case of the type of CPA firm, the capital structure has not been analyzed in previous studies which have attempted to determine whether the type of accountant's report affects user decisions.

The capital structure was set at two levels--strong and weak. The amounts appearing on the financial statements of these two hypothetical companies were obtained by using the ratios published by Robert Morris Associates (RMA) in Statement Studies [1983]. Specifically, the

company with the strong capital structure had a debt/equity ratio equal to the upper quartile ratio given by RMA, and the company with the weak capital structure had a debt/equity ratio equal to the lower quartile ratio given by RMA. RMA obtained the upper quartile ratios by taking "the figure that falls halfway between the median and the strongest ratio" from their sample, and the lower quartile ratios were obtained by taking "the figure that falls halfway between the median and the weakest ratio" [RMA, 1983, p.7]. The capital structures for the two companies that were included in the questionnaire were quite different so as to better test the effect of the capital structure on the type of accounting service that should be obtained. However, the capital structures are not so different as to make one or both of the companies too atypical. In addition, the company having the weaker capital structure was not made too weak so as to preclude a bank loan.

To isolate the effect of the capital structure, the income statements for the two companies were identical through "operating income." The interest expense differed because of the difference in the debt/equity ratio. The company with the strong capital structure had less debt, and therefore its income statement had less interest expense than the company with the weak capital structure.

Prior to pretesting the research instrument, discussions were held with some commercial bank lending officers. They felt that the size of the company (assets of $890,700 and sales of $3,400,000) included in the questionnaire would be a good candidate for a line of credit. They also stated that this size of company would require different reports under various circumstances. That is, the companies were not so large that bank lending officers would always require an audit to evaluate a loan proposal, and not so small that they would never require an audit.

The type of company selected for the loan proposal was an office equipment and supplies retailing firm. The loan officers stated that this type of business was a good prospect for a line of credit. They also indicated that the line of credit would be normally secured by current accounts receivable and sometimes by inventory. Therefore, the questionnaire stated that the line of credit was secured by accounts receivable.

The Dependent Variables

Ten dependent variables were used in this study. Two of these variables required the subject to make a lending decision. The other eight variables were designed to test the bankers' perceptions concerning certain attributes associated with the types of accounting reports.

The decision variables. The main dependent variables in this study were the size of the loan and the interest rate premiums that the bankers recommend. The subjects were asked to state the maximum amount of line of credit that they would be willing to grant the company and the minimum interest rate, stated as an amount above prime, that they would charge.

In previous research (Johnson, Pany, and White [1983] and Hicks [1982]) that examined the effect of compilations and reviews on bank lending decisions, the subjects were presented with a loan proposal and then were asked to accept or reject the proposal. That is, the size of the loan was not included as a variable.[1] The studies by Arnold and Diamond [1981] and Strupeck and Figlewicz [1984] both indicated that loan size was the most important factor in considering the type of accounting service that a prospective customer should obtain. Therefore, the main dependent variable for this research project was the size of the loan. A line of credit decision gives the banker some flexibility in determining the amount to lend. Per discussion with four commercial bank lending officers, the interest rate is normally

---

[1]An exception would be Hicks [1982]. She used the review report in her study, but did not include a compilation. Although she did request the bankers to make a yes/no decision on a specific loan amount, she also asked the bankers to indicate the maximum amount that they would loan to the customer if they rejected the original loan proposal.

specified when a line of credit is granted, but the loan officer is seldom asked to state the maximum amount that he would lend. Normally, the borrower will ask for a particular amount. However, without such a controlled experiment, the informational value of the reports would be impossible to measure. In addition, a bank lending officer should be able to estimate a line of credit amount, and while not customary, should not impair the realism of the task.

A purpose of the attest function is to add credibility to the financial statements. That is, the attest function assists the user in evaluating the quality of information that is being received [Committee On Basic Auditing Concepts, 1973]. Financial statements accompanied by an audit should have less bias and be more fine (i.e., provide more information) than unaudited financial statements [Ng, 1978]. In addition, a review should result in financial statements that contain less bias and that are finer than a compilation. Thus, the amount of risk to the bank should decrease as the level of accounting service increases, assuming all other factors remain constant. In theory, the riskier the company, the higher the risk premium which is charged by the bank [Cohen and Hammer, 1966]. "A risk premium is the additional interest rate which the borrower must pay to compensate the lender for the possibility that the loan may go into

default" [Cohen and Hammer, 1966, p. 383]. Consequently, ceteris paribus, a loan decision based on financial statements accompanied by an accountant's report with a lower assurance level (e.g., a compilation) should result in a higher risk premium than when the statements are accompanied by a report with a greater assurance level (e.g., an audit).

The perception variables. Eight perception variables were used in this study. One of these variables examined whether the bank loan officer can distinguish between the amount of responsibility the accountant is assuming in the various types of accounting services. SSARS states the following:

> Management, shareholders, credit grantors, and others who use financial statements should be able to readily identify the degree of responsibility, if any, the accountant is taking with respect to such financial statements. [ARSC, 1983, par. 5]

Therefore, according to SSARS, the users should be able to distinguish a difference in the amount of responsibility that the accountant is assuming between each level of accounting service. Whether or not the user can perceive a difference in the amount of responsibility that the accountant is assuming in the various types of services has not been tested in prior research.

As noted earlier, different assurance levels are given in the various types of reports. In a compilation, the accountant is not giving any assurance on the financial

statements, but in a review, the accountant is expressing limited assurance that the statements are in conformity with generally accepted accounting principles [ARSC, 1983, par. 4]. In an unqualified audit report, the accountant expresses that the financial statements are presented in conformity with generally accepted accounting principles [ASB, 1984]. Therefore, if the messages from the various types of reports are being sent and received properly, then the users should be able to note the differences in levels of assurance that the statements are presented in conformity with GAAP. In addition, the amount of confidence that the loan officer has that the financial statements are presented in accordance with GAAP was also investigated.

The other perception variables in the study dealt with whether the bank loan officers could distinguish between the amount of testing that was performed in the different levels of service. Before the issuance of SSARS No. 1, unaudited financial statements were criticized because the amount of work that the accountant performed on the financial statements was vague [Carmichael, 1974]. Per examination of SSARS, the minimum amount of testing performed by the accountant varies according to the type of accounting service. For example, inquiry and analytical procedures are required for an audit and a review, but not for a compilation. The study of internal control

is normally necessary for an audit, but not for a review or a compilation. In addition, an audit requires a detailed examination of the accounting records, an attorney's representation letter, and a client's representation letter, while neither a review nor a compilation require any of these procedures. The loan officers' perceptions for each of the above mentioned procedures (i.e., inquiry, analytical review, compliance tests, and substantive test of details) were examined.

Hypotheses

The first two hypotheses deal with the effect of the main manipulative variable--the type of accountant's report--on a bank lending decision. The next eight hypotheses test the effect of the type of accounting report on the perceptions of the bank lending officers. The first ten hypotheses test the effect of this independent variable on each of the ten dependent variables.

H1: The type of accounting report has no effect on the line of credit approved by the bank loan officers.

H2: The type of accounting report has no effect on the interest rate recommended on the line of credit.

H3: The type of accounting report has no effect on the bank loan officers' perceptions about the amount of responsibility that the accountant is assuming for the financial statements.

H4: The type of accounting report has no effect on the bank loan officers' perceptions about the amount of assurance the accountant is providing that the financial statements are presented in accordance with GAAP.

H5: The type of accounting report has no effect on the bank loan officers' perceptions about the amount of confidence that they have that the financial statements are presented in accordance with GAAP.

H6: The type of accounting report has no effect on the bank loan officers' perceptions about the amount of analytical review procedures that were performed by the accountant.

H7: The type of accounting report has no effect on the bank loan officers' perceptions about the amount of substantive tests of details that were performed by the accountant.

H8: The type of accounting report has no effect on the bank loan officers' perceptions about the amount of compliance tests that were performed by the accountant.

H9: The type of accounting report has no effect on the bank loan officers' perceptions about the amount of inquiries that were performed by the accountant.

H10: When anchoring on an audit report, the bank loan officers' perceptions about the amount of confidence that they have that the financial statements are presented in accordance with GAAP are not affected by the type of accounting report.[2]

The next ten hypotheses are designed to test the effect of the second independent variable--the size of the accounting firm--on the dependent variables.

H11: The size of the accounting firm has no effect on the line of credit approved.

---

[2]This anchoring procedure is explained on pages 110 and 111.

H12: The size of the accounting firm has no effect on the interest rate recommended on the line of credit.

H13: The size of the accounting firm has no effect on the bank loan officers' perceptions about the amount of responsibility that the accountant is assuming for the financial statements.

H14: The size of the accounting firm has no effect on the bank loan officers' perceptions about the amount of assurance the accountant is providing that the financial statements are presented in accordance with GAAP.

H15: The size of the accounting firm has no effect on the bank loan officers' perceptions about the amount of confidence that they have that the financial statements are presented in accordance with GAAP.

H16: The size of the accounting firm has no effect on the bank loan officers' perceptions about the amount of analytical review procedures that were performed by the accountant.

H17: The size of the accounting firm has no effect on the bank loan officers' perceptions about the amount of substantive tests of details that were performed by the accountant.

H18: The size of the accounting firm has no effect on the bank loan officers' perceptions about the amount of compliance tests that were performed by the accountant.

H19: The size of the accounting firm has no effect on the bank loan officers' perceptions about the amount of inquiries that were performed by the accountant.

H20: When anchoring on an audit report, the bank loan officers' perceptions about the amount of confidence that they have that the financial statements are presented in accordance with GAAP are not affected by the size of the accounting firm.

The next two hypotheses test the effect of the third independent variable--capital structure. The capital

structure of the firm had no effect on the eight perception variables because the questions concerning the perception variables were asked on the first page of the questionnaire, which immediately followed the accountant's report. The respondent was asked to answer these questions without referring to the financial data contained on the following pages of the questionnaire. Therefore, the capital structure should have no effect on these perception variables.

H21: The capital structure of the business has no effect on the line of credit approved.

H22: The capital structure of the business has no effect on the interest rate recommended.

The next set of hypotheses deals with the effect of the interaction of the type of accounting report and the type of accounting firm. The advantage of a factorial experiment, as opposed to testing the effect of each independent variable separately, is the ability to detect significant interactions [Kleinbaum and Kupper, 1978].

H23: The interaction between the type of accounting report and the size of the accounting firm has no effect on the line of credit approved.

H24: The interaction between the type of accounting report and the size of the accounting firm has no effect on the interest rate recommended.

H25: The interaction between the type of accounting report and the size of the accounting firm has no effect on the bank loan officers' perceptions about the amount of responsibility that the accountant is assuming for the financial statements.

H26: The interaction between the type of accounting report and the size of the accounting firm has no effect on the bank loan officers' perceptions about the amount of assurance the accountant is providing that the financial statements are presented in accordance with GAAP.

H27: The interaction between the type of accounting report and the size of the accounting firm has no effect on the bank loan officers' perceptions about the amount of confidence that they have that the financial statements are presented in accordance with GAAP.

H28: The interaction between the type of accounting report and the size of the accounting firm has no effect on the bank loan officers' perceptions about the amount of analytical procedures that were performed by the accountant.

H29: The interaction between the type of accounting report and the size of the accounting firm has no effect on the bank loan officers' perceptions about the amount of substantive tests of details that were performed by the accountant.

H3Ø: The interaction between the type of accounting report and the size of the accounting firm has no effect on the bank loan officers' perceptions about the amount of compliance tests that were performed by the accountant.

H31: The interaction between the type of accounting report and the size of the accounting firm has no effect on the bank loan officers' perceptions about the amount of inquiries that were performed by the accountant.

H32: When anchoring on an audit report, the bank loan officers' perceptions about the amount of confidence that they have that the financial statements are presented in accordance with GAAP are not affected by the interaction between the type of accounting report and the size of the accounting firm.

The next set of hypotheses deals with the two-way interaction effect of the type of accounting report and

the capital structure of the firm. The capital structure has been noted to be one of the most important factors in determining the level of accounting service that a borrower should obtain [Arnold and Diamond, 1981].

H33: The interaction between the type of accounting report and the capital structure of the business has no effect on the line of credit approved.

H34: The interaction between the type of accounting report and the capital structure of the business has no effect on the interest rate recommended.

The last two-way interaction involves the size of accounting firm and the capital structure of the business. As noted earlier, the capital structure does not affect the perception variables. Therefore, these hypotheses deal only with the decision variables.

H35: The interaction between the size of the accounting firm and the capital structure of the business has no effect on the line of credit approved.

H36: The interaction between the size of the accounting firm and the capital structure of the business has no effect on the interest rate recommended.

A three-way interaction affect also exists. The hypotheses relating to the interaction effect of the three independent variables are given below.

H37: The interaction between the type of accounting report, the size of the CPA firm, and the capital structure of the business has no effect on the line of credit approved by the bank loan officers.

H38: The interaction between the type of accounting report, the size of the CPA firm, and the capital structure of the business has no effect on the interest rate recommended.

Expectations of the Hypotheses

The first 10 hypotheses deal with the effect of the level of accounting service. The quality of the financial statements increases and the risk to the user decreases as the the level of acccounting service increases. Therefore, since users are assumed to be risk averse, the amount of the loan should increase and/or the interest rate should decrease as the level of service increases. If bank lending officers are perceiving the messages from the various types of reports as the accounting profession (i.e., the ARSC and the ASB) intends, then a difference in the loan amount or interest rate premium should result between the levels of accounting service.

According to anecdotal evidence and to theoretical arguments developed by Nichols and Smith [1983], DeAngelo [1981], and Dopuch and Simunic [1980], the accounting profession is characterized by differing levels of quality. Generally, the larger the accounting firm, the higher the quality of service provided. The Strupeck and Figlewicz [1984] survey showed that bankers considered the CPA firm conducting the accounting service as an important factor in a lending decision. Therefore, hypotheses H11 through H20 were expected to be rejected.

Although the main purpose of this paper was to study the effect of the type of accounting report on a bank lending decision, other variables were considered necessary

to include in the research in order to properly evaluate the effect of the level of accounting service. One such variable was the capital structure of the firm. Hypotheses H21 and H22 were also expected to be rejected because the stronger the capital structure of the firm, the less risk for the creditor. Therefore, the firm with the stronger capital structure should receive a higher line of credit or lower interest rate premium. However, the major reason for including this factor was to improve on the efficiency of the MANOVA model and reduce experimental error. Because the interaction of the capital structure with the other variables was not predictable, it could not be used as a blocking factor.

Whether the hypotheses for the interactions (i.e., H23 through H38) among the independent variables will be rejected was difficult to predict. Although there was no theoretical basis to expect such interaction, some could have occurred. For example, Waterston [1979] noted that bankers may see the quality of a review varying more from CPA to CPA, than the quality of an audit. Therefore, some interaction might have resulted from the type of accounting report and the type of accounting firm.

Statistical Analysis

The discussion of the statistical analysis is divided into two parts--decision variables and perception

variables. The analysis of the decision variables differs from that of the perception variables because the independent variable of capital structure did not affect the perception variables.

Models for the Decision Variables

To analyze the effect of the independent variables on the loan granting decisions made by the bankers, multivariate analysis of variance (MANOVA) was utilized. The model for the 3x2x2 MANOVA is shown below.

$$Y_{ijkl}(m) = u(m) + A_i(m) + B_j(m) + C_k(m) + (AB)_{ij}(m) + (AC)_{ik}(m) + (BC)_{jk}(m) + (ABC)_{ijk}(m) + e_{ijkl}(m)$$

where:

$Y_{ijkl}(m)$ = the loan granting decision m of subject l, responding to accounting report i given by accountant j for the company with capital structure k

$u(m)$ = the overall mean for loan granting decision m

$A_i(m)$ = effect of accounting report i for loan granting decision m

$B_j(m)$ = effect of type of accounting firm j for loan granting decision m

$C_k(m)$ = effect of capital structure k for loan granting decision m

$(AB)_{ij}(m)$ = interactive effect of accounting report i by type of accounting firm j for loan granting decision m

$(AC)_{ik}(m)$ = interactive effect of accounting report i on financial statements with capital structure k for loan granting decision m

$(BC)_{jk}(m)$ = interactive effect of type of accounting firm j on financial statements with capital structure k for loan granting decision m

$(ABC)_{ijk}(m)$ = interactive effect of accounting report i by type of accounting firm j on financial statements with capital structure k for loan granting decision m

$e_{ijkl}(m)$ = residual error effect of subject l responding to accounting report i by type of accountant j on financial statements with capital structure k for loan granting decision m.

In multivariate analysis, each series of treatments has an effect on two or more dependent variables. In the above model, each treatment has an effect on both the loan size and the interest rate premium. In MANOVA, the effect of the treatments on the dependent variables is examined simultaneously, and the correlations among the dependent variables is taken into account. In Analysis of Variance, the univariate counterpart to MANOVA, each dependent variable is considered as an independent observation. The major advantage of MANOVA is that:

> the simultaneous response of the experimental units to all variables, considered as a single reponse, generally contains more information about the total effect of the treatment than does the series of reponses considered singly. [Winer, 1971, p. 232]

The assumptions for the MANOVA model are:

1. The components of the vector $\underline{e}$ have a joint multivariate normal distribution with mean vector $\underline{0}$. [Winer, 1971, p. 233]
2. The variance-covariance matrices are equal across k-groups. [Amick and Crittenden, 1975, p. 226]

In addition to the MANOVA model shown above, one-way MANOVAs were used to test the effect of no accountant's association with the different levels of accountant's assurance. The level of no accountant's association was not included in the factorial model because of the absence of the second manipulative variable (i.e., type of accounting firm). Therefore, the level of no accountant association (i.e., the financial statements are internally generated) was tested against each of the other three types of reports.

Model for the Perception Variables

To analyze the effect of the perception variables, a 3x2 MANOVA was used. The factor representing the capital structure was eliminated from this model. The questions on the perception variables were asked before the financial statements were given. Therefore, the capital structure had no effect on the perception variables. The assumptions for this model were the same assumptions as given for the MANOVA model given above. The model shown on the next page tests the effect of the independent variables on the perception

variables.

$$Y_{ijk}(m) = u(m) + A_i(m) + B_j(m) + (AB)_{ij}(m) + e_{ijk}(m)$$

where:

$Y_{ijk}(m)$ = the perception m of subject k, responding to accounting report i given by accountant j

$u(m)$ = the overall mean for perception m

$A_i(m)$ = effect of accounting report i on perception m

$B_j(m)$ = effect of type of accounting firm j on perception m

$(AB)_{ij}(m)$ = interactive effect of accounting report i by type of accounting firm j on perception m

$e_{ijk}(m)$ = residual error effect of subject k responding to accounting report i by type of accountant j on perception m.

CHAPTER 4

DATA ANALYSIS

This chapter presents the data and the statistical tests used in the study to determine the effect of the accountant's report on a line of credit decision and on certain perceptions of bank loan officers. In order of presentation, the major topics covered in this chapter are the following: the response rate, the statistical analysis of the decision variables, the statistical analysis of the perception variables, and the demographic data of the subjects.

The Response Rate

The subjects for the experiment were commercial bank loan officers. A total of 1126 questionnaires were sent to bank loan officers in 22 states. As discussed in Chapter 3, the sample was selected from two sources: the School of Banking of the South and a list of Federal

Reserve Member Banks. Of the 1126 subjects, 636 subjects were obtained from a mailing list of bank loan officers purchased from the School of Banking of the South. The other 490 subjects were randomly selected from a list of Federal Reserve Member Banks published by the Federal Deposit Insurance Corporation. The list used in this study was dated June 30, 1985. The cover letters for this latter group were addressed to "Chief Commercial Credit Officer." Thus, of the total 1126 questionnaires, the cover letter for 636 of the questionnaires contained the name of a specific individual, while the cover letter for the other 490 questionnaires was addressed to a title. See Appendices A and B for examples of these cover letters.

Table 5 indicates the number of responses received from each group. A total of 512 subjects responded, a response rate of 46.1 per cent. The response rate of 50 per cent for the group in which the cover letter for the questionnaire contained the name of an individual was moderately higher than the response rate of 41 per cent for the group in which the cover letter did not contain the individual's name. The 14 inappropriate responses shown in Table 5 were mostly bankers either who did not feel competent to respond to the questionnaire or who no longer worked for the bank to which the questionnaire was sent.

TABLE 5

BANKER RESPONSES TO MAILINGS

	Named Sample	Unnamed Sample	Total
Bankers in Sample	636	490	1124
Inappropriate Bankers	12	2	14
Appropriate Bankers	624	488	1110
Responses to Mailing	312	200	512
Response Rate	50.0%	41.0%	46.1%

One reason for the higher response rate was probably due to the fact that the cover letter was addressed to the name of an individual. When anonymity is not an important factor, studies have shown that a personally addressed letter increases the rate of response [Erdos, 1983]. Additionally, at least some of the higher response rate may have been caused by the subject's affiliation with the School of Banking of the South, which is indirectly associated with Louisiana State University.

Statistical Analysis of the Decision Variables

The focal point of this study was to determine whether the type of accounting service affects a line of credit decision made by bank lending officers. To test for this effect, the bank loan officers were given a set of financial statements, an accountant's report (except

in the case of no accountant's association), and background information about the company and the principal owner. The subjects were then asked to recommend the maximum amount as a line of credit that they would be willing to grant the company and the minimum interest rate that they would charge (see the sample questionnaires in Appendices D, E, F, or G).

As discussed in Chapter 3, the factors for this study were the type of accountant's report, the size of the CPA firm, and the capital structure of the company applying for the line of credit. The main model used to analyze the effect of these factors on the line of credit decision was a 3x2x2 MANOVA. In addition, twelve one-way MANOVAs were used to analyze the effect of no accountant's report on the lending decision.

Test of the Assumptions of the Model

The MANOVA model has two basic assumptions: the error term vectors should have a multivariate normal distribution with mean vector $\emptyset$, and the variance-covariance matrices are equal across k-groups. The test for normality was examined first because not only does MANOVA assume that the error vectors have a multivariate normal distribution, but the test for the equality of the variances also assumes that the data was normally distributed. In addition, the transformation that corrects for the

lack of normality also usually helps to correct for unequal error variances [Neter, Wasserman, and Kutner, 1985].

To test for the normality assumption, the Shapiro-Wilk's test was used. This test statistic showed that the null hypothesis of normally distributed residuals was rejected at the .Ø1 level for 2Ø of the 24 cells. The 24 cells resulted from 2 dependent variables and the 12 treatment combinations in a 3x2x2 MANOVA. Per examination of the stem-and-leaf plots of the residuals, no discernable pattern was noted. Nevertheless, three types of transformations were attempted. The transformations used were the square root of the original response, the natural log of the original response plus one, and the inverse of the original response plus one. Because some of the responses to the questions were zero, one was added to the original data before taking the log and the inverse. None of the transformations corrected for the normality departure. In fact, the null hypothesis that the data was normally distributed was rejected in 21 of the 24 cells at the .Ø1 level for each of the transformations. Because the test for the equality of the variance-covariance matrices is extremely sensitive to the normality assumption, the test for the equality of variances was not attempted [Neter, Wasserman, and Kutner, 1985].

Unfortunately, there is no equivalent nonparametric test for MANOVA. However, an alternative is to rank the data, then "apply the usual analysis of variance to the ranks" [Conover, 1980, p.337]. This procedure tends to be robust, regardless of the actual distribution of the underlying population [Conover, 1980]. Conover states that:

> The recommended procedure in experimental designs for which no nonparametric test exists is to use the usual analysis of variance on the data and then to use the same procedure on the rank transformed data. If the two procedures give nearly identical results the assumptions underlying the usual analysis of variance are likely to be reasonable and the regular parametric analysis valid. When the two procedures give substantially different results, the analysis on ranks is probably more accurate than the analysis on the data and should be preferred. [Conover, 1980, p. 337]

This procedure was followed for this research project. The MANOVA results are discussed in the following section.

MANOVA Results

In MANOVA, the effects of the treatments on the dependent variable are examined simultaneously. Therefore, a response needs to be recorded for each dependent variable. Some of the participants in this study recommended that no line of credit be given to the company that they analyzed. Since their response to the loan amount was zero, the interest rate recommendation was not applicable. A response for both the loan amount and the interest rate was needed in order for the observation to be used.

Thus, some observations were not used in the 3x2x2 MANOVA because no interest rate was given by some respondents. Specifically, 27 of the observations could not be used. Twenty one of these observations were for the company with the weak capital structure. The fact that substantially more zero loan recommendations were given for the company with the weak capital structure indicates that the respondents were examining the financial statements when making their loan decision.

Tables 6 and 7 show the results of the MANOVAs for both ranked and unranked data. The values appearing in all of the MANOVA tables presented in this chapter were based on the Wilks' Criterion, which is the preferred method [Hair et al., 1979]. In most situations, the four MANOVA test criteria (i.e., Wilks' Criterion, Pillai's Trace, Hotelling-Lawley Trace, and Roy's Maximum Root Criterion) give very similar results. Except in unusual situations, the Wilks' Criterion performs at least as well as the other methods when the assumptions of the MANOVA model have been violated [Barker and Barker, 1984].

The F and p-values shown in Tables 6 and 7 are substantially different for the CPA firm/company interaction effect. On the unranked data, the p-value for the CPA firm/company interaction effect was .9980, while for the ranked data, the p-value was .0428. The interaction effect on the ranked data was due to the fact that the

TABLE 6

OVERALL MANOVA RESULTS--RANKED DATA

Hypothesis	F Value	Prob.>F
Report Effect	2.55	.0377
CPA Firm Effect	0.40	.6693
Company (Capital Structure) Effect	4.07	.0178
Report/Firm Interaction	0.99	.4118
Report/Company Interaction	0.54	.7079
Firm/Company Interaction	3.18	.0428
Report/Firm/Company Interaction	1.55	.1849

TABLE 7

OVERALL MANOVA RESULTS--UNRANKED DATA

Hypothesis	F Value	Prob.>F
Report Effect	2.06	.0839
CPA Firm Effect	0.85	.4272
Company (Capital Structure) Effect	21.86	.0001
Report/Firm Interaction	1.90	.1092
Report/Company Interaction	0.64	.6358
Firm/Company Interaction	0.00	.9980
Report/Firm/Company Interaction	1.30	.2682

local CPA firm/weak capital structure combination had higher ranks for the loan size than the international CPA firm/strong capital structure combination. However, when examining the means of the unranked data, the mean loan size of $151,946 for the local CPA firm/strong capital structure combination was larger than the mean loan size of $116,656 for the local CPA firm/weak capital structure combination. Per examination of the data, it appears that the local CPA firm/strong capital structure combination resulted in a number of small loans, thus causing the lower average rankings. However, this interaction effect on the ranked data was misleading because the MANOVA model did not take into consideration the zero loan amounts. Specifically, 3 observations were eliminated from the local CPA firm/strong capital structure combination, and 15 observations were eliminated from the local CPA firm/weak capital structure combination. These observations had zero loan amounts. They were eliminated because the respondent did not state an interest rate. As a result, the local CPA firm/strong capital structure combination had more observations and a lower mean rank for the MANOVA model than the local CPA firm/weak capital structure combination. The respondents recommended more small loans for the local CPA firm/strong capital structure combination and more zero loan amounts for the local CPA firm/weak capital structure combination. If these

zero loan recommendations could have been used in the MANOVA model, it is very doubtful that a significant CPA firm/company interaction effect would have occurred.[1]

ANOVA Main Effects

Separate univariate tests were performed to isolate which response variables accounted for the significant effects.[2] That is, a three factor (3x2x2) analysis of variance was performed on each response variable. Since the interaction of the CPA firm/comapny effect was significant in the MANOVA model, this interaction term was included in the ANOVA models. The analysis was performed on the ranked data because of the differences in the

---

[1]A 3x2x2 MANOVA model was run on the ranked data utilizing an interest rate for the zero loan recommendations. A high interest rate was used based on te assumption that the reason for making a zero loan recommendation was that the bankers felt that the risk was too high to make a loan. Specifically, an interest rate equal to two standard deviations greater than the mean interest rate for the appropriate combination of factors was used. The results showed that the report effect (p-value of .0336), the CPA firm effect (p-value of .0489), and the company effect (p-value of .0001) were all significant at the .05 level. Additionally, there were no significant interaction effects. In fact, the CPA firm/company effect had a p-value of .9119.

[2]When the analysis is restricted within variables across groups, as in this study, Timm [1975] recommends this procedure over the Roy's union-intersection test [Morrison, 1976], a multivariate construction of simultaneous confidence intervals on the response-treatment combinations. In addition, the Spearman rank correlation coeffient was used to measure the association between the two response variables. This test was significant at the .10 level for only one cell. Thus, interest rate and loan size were not highly correlated.

p-values between the ranked data (Table 6) and the unranked data (Table 7), particularly for the CPA firm/company interaction effect [Conover, 1980].

Table 8 presents the results of the univariate tests. The dependent variables in this analysis contained the actual responses. That is, the zero loan amounts were utilized in the univariate analysis. All three of the main effects significantly affected the size of the line of credit at the .05 level, while only the capital structure of the company had a significant effect on the interest rate. The interaction effect was not significant in the univariate analysis probably because the univariate test incorporated all of the observations (i.e., this test included the 27 observations that specified a zero loan amount, but no interest rate), whereas the multivariate test could not include the zero loan amounts since no interest rate was given. Additionally, the exclusion of the zero loan amounts for the multivariate tests also helps to account for the fact that the CPA firm effect was significant in the univariate test, but insignificant in the multivariate test.

TABLE 8

UNIVARIATE ANALYSIS OF VARIANCE RESULTS

Response Variable	F Value	Prob.>F
Loan Size:		
Report Effect	3.94	.0201
CPA Firm Effect	6.07	.0142
Company (Capital Structure) Effect	31.21	.0001
Firm/Company Interaction	0.15	.6991
Interest Rate:		
Report Effect	0.66	.5180
CPA Firm Effect	2.41	.1217
Company (Capital Structure) Effect	23.29	.0001
Firm/Company Interaction	0.02	.8882

Multiple Comparisons for the Report Effect

Since there were three levels of report, a multiple comparison technique was used to see which factor levels differed significantly. The Tukey-Kramer method of multiple comparisons was selected because it gives sufficient power while protecting against the experimentwise error rate. When the sample sizes are not equal, Tukey-Kramer is conservative [Kleinbaum and Kupper, 1978]. An alpha level of .05 was used. The size of loan recommended for the company when the financial statements contained an audit report was significantly different from the loan size granted when the financial statements were compiled. However, an audit did not result in a statistically significant different line of credit than a review,

and a review did not result in a statistically significant different line of credit than a compilation.

The mean scores of the subjects' responses are presented in Table 9. As expected, the mean loan size increased as the level of accounting service increased. However, the interest rate was not affected by the type of report. The largest difference in the mean scores for the interest rate was only one tenth of one per cent. The compilation report even resulted in a slightly lower interest rate than the review report. However, this difference was not statistically significant and, therefore, appears to be due to chance. The companies that received an accountant's report from an international CPA firm were granted a higher loan amount and a lower interest rate than the companies that received an accountant's report from a local CPA firm. The companies with a strong capital structure also received a more favorable line of credit than the companies with a weak capital structure.

Analysis of No Report Effect

In addition to the 3x2x2 MANOVAs, 12 one-way MANOVAs were performed to analyze the effect of no accountant's report on the line of credit decision. Since there was no accounting firm involved when the financial statements were internally generated and there was significant interaction, the effect of no accountant's report was compared to each combination of factors. That is, the effect

TABLE 9

MEAN SCORES OF THE DECISION VARIABLES

Factor	Loan Size	Interest Rate (Above Prime)
Report		
Audit	$142,927	2.05%
Review	$129,418	2.15%
Compilation	$118,328	2.09%
Firm		
International	$136,494	2.05%
Local	$124,390	2.14%
Capital Structure		
Strong	$151,974	1.91%
Weak	$107,054	2.31%

Note: Means linked by a common bracket do not differ significantly from each other. Means not linked together differ significantly at an alpha level of .05 (using Tukey-Kramer's Multiple Comparison Test).

of the factors was confounded when making these comparisons.

No accountant's report was compared to each of the following:

1) an audit performed by a large international CPA firm;
2) an audit performed by a local CPA firm;
3) a review performed by a large international CPA firm;
4) a review performed by a local CPA firm;

5) a compilation performed by a large international CPA firm; and
6) a compilation performed by a local CPA firm.

The above comparisons were made for both the company with a strong capital structure and for the company with a weak capital structure. The F-values and the p-values for these MANOVAs are presented in Tables 10 and 11. Per examination of these tables, only one of the comparisons was significantly different at the .05 level. An audit performed by a large international CPA firm for a company with a weak capital structure resulted in a statistically different (p-value of .0319) line of credit than when the same company did not have any accountant's report.

To determine which response variables (i.e., loan size or interest rate) were affected by the type of report, a one-way ANOVA was performed for each dependent variable. At the .05 level, the company with a weak capital structure that obtained an audit report performed by a large international firm received a larger line of credit (p-value of .0074) than the same company that did not receive an accountant's report. However, the interest rates were not significantly different (p-value of .1013).

Because the one-way MANOVA models did not take into consideration the zero loan amounts when no interest rate was stated, one-way ANOVAs were used to test the effect of no accountant's association on the loan size. Besides the significant difference for the factor

TABLE 10

MANOVA RESULTS FOR NO ACCOUNTANT'S REPORT
WHEN THE COMPANY HAS A STRONG CAPITAL STRUCTURE

Contrasts	F Value	Prob.>F
No Report versus:		
Audit performed by a large international CPA firm	0.60	.5194
Audit performed by a local CPA firm	1.88	.1602
Review performed by a large international CPA firm	0.89	.4170
Review performed by a local CPA firm	0.67	.5170
Compilation performed by a large international CPA firm	1.67	.1962
Compilation performed by a local CPA firm	0.67	.5170

TABLE 11

MANOVA RESULTS FOR NO ACCOUNTANT'S REPORT
WHEN THE COMPANY HAS A WEAK CAPITAL STRUCTURE

Contrasts	F Value	Prob.>F
No Report versus:		
Audit performed by a large international CPA firm	3.65	.0319
Audit performed by a local CPA firm	0.41	.6642
Review performed by a large international CPA firm	0.03	.9689
Review performed by a local CPA firm	0.09	.9133
Compilation performed by a large international CPA firm	1.13	.3289
Compilation performed by a local CPA firm	0.09	.9133

combination noted above, only one other comparison was significant at the .05 level. An audit performed by a local CPA firm for a company with a strong capital structure resulted in a significantly larger loan size than when no accountant's report was issued (p-value of .0356). This latter result was anomalous. If a difference was found for an audit performed by a local CPA firm, one would expect a difference also to be found for an audit performed by an international CPA firm, particularly in view of the mean scores presented in Table 9. However, when making so many comparisons (i.e., 12 in this case), a significance level of .0356 is not very high. In fact, with 12 comparisons, there is greater than a 33 per cent chance that one significant difference will be found at the .0356 level.[3]

---

[3]Twelve MANOVA models were run on the ranked data utilizing an interest rate for the zero loan recommendations. The same procedure was followed as noted in footnote 1. That is, an interest rate equal to two standard deviations greater than the mean interest rate for the appropriate combination of factors was used for the zero loan amounts. Two comparisons were significant at the .05 level. These two comparisons were the same ones as noted above. Specifically, an audit performed by an international CPA firm for a financially weak company resulted in a significantly different line of credit (p-value of .011) than when the same company received no accountant's report. In addition, an audit performed by a local CPA firm for a financially strong company resulted in a significantly different line of credit (p-value of .0356) than when the same company received no accountant's report.

Discussion of the Results--Decision Variables

The results of this study contrast with the findings of previous research. The two previous studies (i.e., Johnson, Pany, and White [1983] and Hicks [1982]) that investigated the effect of different accounting services on a lending decision found that the type of accounting report did not affect a bank lending decision. However, the results of this study showed that the type of report did affect a line of credit decision. One reason for the difference may be due to the inclusion of the size of the CPA firm and the capital structure of the company in the model. These factors were not examined in previous research, thus the experimental error in their studies was greater.

The main dependent variable of the previous studies was the interest rate recommended by the bank loan officer. According to finance literature, the riskier the investment, the higher the required rate of return [Weston and Brigham, 1971]. Thus, this study and previous studies hypothesized that the interest rate would decrease as the level of assurance (i.e., accounting service) increased. However, the results of this study indicate that the level of accounting service affects the loan size and not the interest rate. The fact that the capital structure did affect the interest rate demonstrates that a relationship does exist between interest rate and risk. Apparently,

the type of report was not as important as the capital structure although it did influence the amount of the loan, which also may be a function of risk.

Statistical Analysis of the Perception Variables

This study also investigated whether the bank lending officers' perceptions differ among the types of accounting reports. A total of eight perceptions were examined. The subjects were asked to respond to the first seven perception questions by using an 11-point scale. The exact scales used in the questionnaire are shown on the sample questionnaires in Appendices D, E, F, and G. The perception questions were as follows:

Q1: How much responsibility is the CPA assuming for the accuracy of the information in the financial statements of Skinner's (Williams') Office Supply and Equipment Company?

Q2: How much assurance is the CPA giving that the financial statements are presented in conformity with generally accepted accounting principles (GAAP)?

Q3: How confident are you that the financial statements are presented fairly in conformity with generally accepted accounting principles (GAAP)?

Q4: In order to identify questionable relationships and unusual fluctuations in the amounts appearing on the financial statements, how extensively do you feel that the CPA used analytical procedures, such as analyzing ratios and comparing the financial statement amounts with prior years' statements, budgets, and/or forecasts?

Q5: To what extent do you feel that the CPA performed tests of the account balances comprising the financial statements by examining the supporting documents or by corresponding directly with third parties, such as debtors and creditors?

Q6: How much evidence do you feel that the CPA collected in an attempt to ascertain that the more important accounting control procedures were functioning during the fiscal period of the financial statements?

Q7: To what extent do you feel that the CPA made inquiries of management concerning the general understanding of the nature of the entity's business and significant accounting matters, such as the company's record keeping procedures and actions taken at the board of director's meetings?

Q8: Assume that when an audit report is issued by a CPA, 100 points represents the amount of confidence that you have that the financial statements are presented in accordance with generally accepted accounting principles (GAAP). Given the CPA's compilation report on page 1, how many points would you assign to the amount of confidence that you have that the financial statements are presented in accordance with GAAP? (For example, if you are 90% as confident when a compilation report is issued as compared to when an audit report is issued, then your answer would be 90.)
_____points

The first seven questions appeared on all the questionnaires containing an audit, a review, or a compilation report. However, Question 8 varied depending upon the type of report. Question 8 shown above was for the compilation report. The question for the review report was identical to the question shown above except for the fact that "review" was substituted for "compilation." Question 8 that appeared on the questionnaire containing the audit report anchored on the compilation report. That is, wherever the word "compilation" appears in the question shown above, the word "audit" was substituted,

and wherever the word "audit" appears, the word "compilation" was used. The example given was also different. For the questionnaire containing the audit report, 200 per cent was used rather than 90 per cent. However, a potential problem resulted from the fact that Question 8 for the questionnaire containing the audit report anchored on a compilation, while the other forms of the questionnaire anchored on an audit report. For analysis purposes, the answers for Question 8 for the audit report were transformed by taking the original response and multiplying it by the mean of the answers for Question 8 given on the questionnaires containing the compilation report and then dividing by 100. Theoretically, if the anchoring was not significant, then the mean response for the audit report should be 100 after making the conversion. The mean response for the audit report was 106, which appears to indicate that the anchoring effect was not very substantial.

The statistical analysis for the perception variables followed the same basic procedures as described for the decision variables, except capital structure should not have affected the perceptions of the bank lending officers. The perception questions were asked before the financial statements were presented, and the subjects were instructed to answer these questions based upon the accountant's report and not on any other information contained in

the questionnaire. Thus, a 3x2 MANOVA was utilized in analyzing the perception variables. In addition, 6 one-way MANOVAs were used to analyze the effect of the internally generated statements (i.e., no accountant's report) on the perceptions of the subjects.

Test of the Assumptions of the Model

The assumption that the dependent variables were multi-normally distributed for the MANOVA model was examined first. Since the data was discrete (except for the responses to Question 8), it was not surprising that the normality assumption was violated. In fact, the null hypothesis that the residuals were normally distributed was rejected for all 48 cells (six factor combinations and eight responses) at the .Ø5 level. An examination of the stem-and-leaf plots of the residuals did not reveal any discernible pattern. However, as in the case of the decision variables, three transformations--log, inverse, and square root--were used to see if the residuals could be transformed into a multivariate normal distribution. None of these transformations helped. The Kolomogorov D statistic was computed to test for the normality assumption.

MANOVA Results

Since the residuals were not normally distributed, the MANOVA model was used for both the ranked data and

the original data. The F and p-values are shown in Tables 12 and 13. The p-values differ slightly in these two tables with the major difference occurring in the interaction term. Therefore, the ranked data was used in the analysis [Conover, 1980].

Per examination of Table 12, the interaction effect was significant at the .0172 level. Therefore, separate 3x2 ANOVAs were performed on each response variable to find which response variables had significant interaction effects. Only Question 6 had a significant interaction effect (p-value of .019).[4]

ANOVA Results

Univariate tests were performed to isolate which response variables accounted for the significant effects (see footnote 1 on page 109). Except for Question 6, the interaction term was dropped from the ANOVA models. The results of these tests are presented in Table 14. This table shows that the report effect was significant at the .0001 level for each perception variable, and the CPA firm effect was significant at the .05 level

---

[4]To verify this conclusion, another MANOVA was run without Question 6. The results showed that the report effect (p-value of .0000) and the CPA firm effect (p-value of .0002) were significant, while the interaction effect (p-value of .1028) was not significant.

TABLE 12

OVERALL MANOVA RESULTS--RANKED DATA

Hypothesis	F Value	Prob.>F
Report Effect	45.82	.0000
CPA Firm Effect	3.60	.0005
Report/Firm Interaction	1.90	.0172

TABLE 13

OVERALL MANOVA RESULTS--UNRANKED DATA

Hypothesis	F Value	Prob.>F
Report Effect	51.05	.0000
CPA Firm Effect	3.38	.0009
Report/Firm Interaction	1.55	.0749

TABLE 14

UNIVARIATE ANALYSIS OF VARIANCE RESULTS

Response Variable	F Value	Prob.>F
Q1-Responsibility		
Report Effect	221.87	.0001
CPA Firm Effect	3.87	.0524
Q2-GAAP Assurance		
Report Effect	122.99	.0001
CPA Firm Effect	0.02	.8767
Q3-GAAP Confidence		
Report Effect	94.25	.0001
CPA Firm Effect	16.63	.0001
Q4-Analytical Review		
Report Effect	94.56	.0001
CPA Firm Effect	4.86	.0279
Q5-Substantive Tests		
Report Effect	214.32	.0001
CPA Firm Effect	4.81	.0289
Q6-Compliance Tests*		
Report Effect	192.96	.0001
CPA Firm Effect	11.48	.0008
Report*CPA Firm	3.99	.0193
Q7-Inquiries		
Report Effect	85.02	.0001
CPA Firm Effect	10.15	.0015
Q8-GAAP Confidence		
Report Effect	97.88	.0001
CPA Firm Effect	1.88	.1709

*The interaction term was included because it had a statistically significant effect.

for Questions 3, 4, 5, and 7.[5]

Analysis of No Report Effect

To analyze the effect of no accountant's report, 6 one-way MANOVAs were used. Per examination of Table 15, only an audit report differed significantly from no accountant's report. Only two perception questions were asked on the questionnaires that did not contain an accountant's report. These questions were 3 and 8, which both dealt with the amount of confidence that the bank lending officers had that the financial statements were presented in accordance with GAAP. The responses were significant at the .0001 level for both questions.

The results shown in Table 15 were consistent with the findings mentioned earlier from the analysis of the 3x2 MANOVA. That is, the bankers had significantly more confidence that the financial statements were prepared in accordance with GAAP when such statements were audited than when the statements were reviewed or compiled.

---

[5]Because of the significant interaction effect for Question 6, a one-way ANOVA with six levels was utitilized. Tukey-Kramer's Multiple Comparison procedure was used. The results showed that the type of report had a significant effect on the responses at the .05 level, but the size of the CPA firm did not have a significant effect.

TABLE 15

MANOVA RESULTS FOR NO ACCOUNTANTS REPORT

Contrasts	F Value	Prob.>F[1]
No Report versus:		
Audit performed by a large international CPA firm	99.00	.0001
Audit performed by a local CPA firm	46.24	.0001
Review performed by a large international CPA firm	2.43	.0920
Review performed by a local CPA firm	0.01	.9949
Compilation performed by a large international CPA firm	0.21	.8116
Compilation performed by a local CPA firm	0.01	.9949

Multiple Comparisons for the Report Effect

Table 16 shows the results of Tukey-Kramer's Multiple Comparison technique. For each perception question, the audit report had statistically significant higher responses than a review and a compilation. The review differed significantly from the compilation report on all of the responses except Questions 2, 3, and 8. In addition, the effect of the size of the CPA firm was statistically significant at the .05 level for Questions 3 through 7. The mean scores for these perception variables are also presented in Table 16. Only perception Questions 3 and 8 were applicable to the questionnaires that did not contain an accountant's report. Per examination

TABLE 16

MEAN SCORES OF THE PERCEPTION VARIABLES

Question	Report				Firm	
	Aud.	Rev.	Com.	None	Int.	Loc.
Q1-responsibility	6.8*	1.5*	Ø.7*	-	3.3	2.9
Q2-GAAP assurance	8.4*	3.4	3.6	-	5.3	5.2
Q3-GAAP confidence	7.6*	4.2	4.Ø	3.8	5.8^	4.9^
Q4-analytical review	5.6*	3.1*	1.8*	-	3.8^	3.3^
Q5-substantive tests	6.5*	2.1*	1.3*	-	3.6^	3.2^
Q6-compliance tests	6.5*	3.3*	1.7*	-	4.2	3.5
Q7-inquiries	6.3*	4.4*	2.6*	-	4.8^	4.1^
Q8-GAAP confidence	1Ø6*	47	43	44	7Ø	63

*signifies that the mean response is significantly different from the mean responses for the other types of accounting reports at a .Ø5 level

^signifies that the mean response is significantly different from the mean response for the other size of CPA firm at a .Ø5 level

of this table, the mean scores increased as the level of accounting service increased. That is, the audit report resulted in higher mean scores than the review report, and the review report resulted in higher mean scores than the compilation report. An exception was Question 2, for which the mean score for the compilation

was slightly higher than the mean score for the review. In addition, for Question 8, the internally generated statements received a slightly higher mean score than the compilation report. Table 16 also shows that the reports issued by international CPA firms received higher mean scores for each perception variable than the reports issued by a local firm.

Discussion of the Results--Perception Variables

The bank loan officers felt that the CPA was giving significantly more assurance in an audit report than the other levels of CPA association. Based on the results of Question 8, the bankers were more than twice as confident that the financial statements were presented in accordance with GAAP than in any other level of assurance. However, an examination of the responses to Questions 2, 3, and 8 appears to indicate that the bankers were confused as to the level of assurance that the CPA was giving in a review report. For each of these three questions, the statistical analysis found that no difference exists in the responses for the review, compilation, and no accountant's association. In a review report, the accountant is "expressing limited assurance that there are no material modifications that should be made to the financial statements in order for the statements to be in conformity with generally accepted accounting principles" [ARSC, par 100.24], and in a compilation

report, the accountant is not expressing any assurance [ARSC, par. 100.04]. Therefore, the amount of assurance given by the review report is intended to be greater than the amount of assurance given by the compilation report. Since the responses to Questions 3 and 8 were not different for the compilation report and no accountant's report, it appears that the bank loan officers were correctly perceiving the messages intended by the compilation report (i.e., no assurance).

The responses to Questions 4 and 7 also may indicate that the bank loan officers were not correctly perceiving the messages intended by the review report. For the review report, the mean response to Questions 4 and 7 were 3.1 and 4.4, respectively. Analytical review procedures (Question 4) and inquiry (Question 7) form the basis for issuing the review report. Yet, the mean responses indicate that the bankers do not perceive that these procedures are often used in a review. For Question 4, the mean response for the review report was only 1.3 points higher than for a compilation. Although this difference was statistically different at the .05 level, the difference should have been greater when considering that the type of procedures mentioned in Question 4 are required for a review [ARSC, par. 100.27] and not for a compilation. The fact that a statistically significant difference occurred when the mean difference was only

1.3 was not too surprising when considering the fact that the cell sizes were large.

The CPA firm effect was significant at the .Ø5 level for Questions 3, 4, 5, and 7. However, the mean scores were similar for all of the perception variables. The largest difference occurred on perception Question 3, in which the mean score for the international firm was 5.8 and the mean score for the local CPA firm was 4.9, which indicates that the bankers were slightly more confident that the financial statements were presented in accordance with GAAP when the report was issued by an international firm than when the report was issued by a local CPA firm. In addition, the bankers perceived that slightly more testing was performed by an international CPA firm than by a local CPA firm.

The bankers perceived that the CPAs were accepting a greater responsibility for the accuracy of the information in an audit report than in a review or a compilation. The loan officers also perceived that the CPA assumed a greater amount of responsibility in a review than a compilation. However, per examination of the mean scores, it appears that bank loan officers feel that the CPA is accepting very little responsibility for the accuracy of the financial statements for both a review (mean score of 1.4) and a compilation (mean score of .7). The firm effect was not significant at the .Ø5 level. Therefore,

the amount of responsibility that the bank loan officers perceive the accountant as assuming made no difference as to whether the CPA firm was small or large.

Demographic Data

Generally, the subjects participating in this study were experienced bank lending officers. Table 17 shows that the average number of years that the respondents served as bank loan officers was 9.2. The mean number of years experience for the respondents receiving the questionnaires addressed to "Chief Commercial Credit Officer" was 11.5 years, while the mean number of years experience for the group obtained from the School of Banking of the South was 7.8 years. Slightly over 98 per cent of the respondents were currently approving loans either personally or with a committee. In addition, 82 per cent of the subjects had a college degree, and 96 per cent had at least some college training. Nearly one fifth of the subjects had at least a masters degree. Therefore, the subjects were experienced and educated.

Demographic data on the bank size for which the respondents worked is presented in Table 18. Of the 512 respondents, 8 failed to answer this demographic question. Therefore, the data appearing in Table 18 was based upon 504 responses. As illustrated in this table, a greater coverage of the large banks was emphasized in the sample selection process. The 490 questionnaires

TABLE 17

COMMERCIAL BANKING EXPERIENCE AND EDUCATION OF RESPONDING BANKERS

Measure	Mean	Standard Deviation
Years of commercial lending experience:		
School of Banking of the South	7.8	6.0
Chief Commercial Credit Officers	11.5	8.4
Total	9.2	7.3

Measure	Percent	Cumulative Percent
Formal Education:		
High school	3.8%	3.8%
Some college	18.3	22.1
Bachelors degree	60.0	82.1
Masters degree or higher	17.9	100.0

that contained a cover letter addressed to the "Chief Commercial Credit Officer" were sent only to banks that had at least $50,000,000 in total assets. As a result, 88 per cent of the respondents were lending officers working for banks with at least $50,000,000 in assets. Insured commercial banks in the United States have combined total assets of over $2 trillion. Banks that have at least $50,000,000 in total assets account for 89.3 per cent of this total [U. S. Department of Commerce, 1984].

TABLE 18

SIZE OF BANKS PARTICIPATING IN THE STUDY

Bank Size in Terms of Assets	Percentage of Banks in Sample	Percentage of Banks in the U.S.[1]
Less than $25 million	2.0%	28.8%
$25 to $50 million	9.7%	25.9%
$50 to $100 million	36.7%	18.1%
$100 to $500 million	35.9%	12.7%
$500 million or more	15.7%	3.1%

[1]These percentages are based upon the number of insured commercial banks.
Source: U. S. Department of Commerce, Bureau of the Census, Statistical Abstract of the United States: 1984 (Washington: U. S. Government Printing Office, 1984), p. 491.

Therefore, in terms of total dollars controlled by the banking industry, the sample was representative.[6]

[6]To test for the effect of bank size on the responses of the bank loan officers, a MANOVA was run using the bank size as a blocking variable. The MANOVA model resulted in a p-value of .0001 for the bank size. When bank size was included in the model as a blocking factor, the p-value for the report effect increased, and the p-values for the CPA firm effect and the capital structure of the company effect decreased. In addition, there were no interaction effects. Separate 3x2x2 MANOVAs were run for each level of bank size to gain some insight into the fluctuation in the p-values for the main effects. The results of this procedure showed that the report effect did not cause significant differences at any level. However, the report effect had some significant interaction with the CPA firm effect at two of the levels of bank size. A MANOVA was also run for the perception variables using the size of the bank as a blocking variable. The size of the bank was insignificant at the .05 level.

Summary of the Results

In conclusion, the subjects for this experiment were experienced bank loan officers. Whether the subjects were affiliated with the School of Banking of the South had no significant effect on the responses. However, the size of the bank for which the respondents worked appears to have some impact on the lending decision. The type of report, the size of the CPA firm, and the capital structure all affected the bank loan officer's line of credit decision. The type of report and the size of the CPA firm also affected the perceptions of the bank loan officers. In the previous chapter, 38 hypotheses were developed. Table 19 summarizes the results of the statistical analyis. As noted in Chapter 3, the alpha level used in this study was .Ø5. Therefore, all of the rejected hypotheses shown in Table 19 were significant at less than the .Ø5 level.

TABLE 19

RESULTS OF THE TESTING OF THE HYPOTHESES

Hypothesis*	Dependent Variable	Conclusion
H1: R effect	loan amount	reject
H2: R effect	interest rate	fail to reject
H3: R effect	Q1-responsibility	reject
H4: R effect	Q2-assurance	reject
H5: R effect	Q3-confidence	reject
H6: R effect	Q4-analytical review	reject
H7: R effect	Q5-substantive tests	reject
H8: R effect	Q6-compliance tests	reject
H9: R effect	Q7-inquiries	reject
H10: R effect	Q8-confidence	reject
H11: F effect	loan amount	reject
H12: F effect	interest rate	fail to reject
H13: F effect	Q1-responsibility	fail to reject
H14: F effect	Q2-assurance	fail to reject
H15: F effect	Q3-confidence	reject
H16: F effect	Q4-analytical review	reject
H17: F effect	Q5-substantive tests	reject
H18: F effect	Q6-compliance tests	fail to reject
H19: F effect	Q7-inquiries	reject
H20: F effect	Q8-confidence	fail to reject
H21: C effect	loan amount	reject
H22: C effect	interest rate	reject
H23-H38: Interaction effects on each of the dependent variables		fail to reject[1]

*R=Report, F=CPA Firm, and C=Capital Structure

[1]One exception exists. Specifically, significant interaction occurred between the report and the CPA firm effects for Question 6. Therefore, hypothesis H30 was rejected.

CHAPTER 5

SUMMARY AND CONCLUSIONS

This chapter presents the summary and the major implications of this research project. In order of presentation, the major topics discussed in this chapter are: the summary of the research, the implications of the findings of the study, the limitations of the study, and some suggestions for future research.

Summary

Prior to the issuance of SSARS No. 1 in 1978, a CPA could provide only two levels of assurance--no assurance and the assurance of an audit. If the accountant did not gather enough evidence to comprise an audit, then a disclaimer of opinion had to be issued. Many believed that this policy was a disservice to the clients and the users. If a CPA performed numerous tests of the client's financial records, yet did not gather enough

evidence to constitute an audit, a disclaimer would have to be issued. As a result, the users would not be aware of any such tests performed, and the client would have to pay for the additional work of the accountant and not be able to receive the benefit of a higher level of assurance than a disclaimer. The 1136 Tennants' [1967] case also made the accounting profession more concerned about the accounting standards relating to nonpublic businesses. In 1977, as a result of congressional investigations of the accounting profession, the Accounting and Review Services Committee (ARSC) was elevated to a senior technical committee.

In December 1978, the ARSC issued its first pronouncement, SSARS No. 1, which allowed a CPA to give other levels of assurance besides an audit (i.e., the highest level of assurance) and a disclaimer (i.e., no assurance). The accountant now could provide two additional levels of assurance--a review and a compilation. However, many users expressed concern that the messages from these two new levels of service may be misinterpreted. The results of this research support the validity of these concerns.

The focal point of this study was to determine if the type of accounting service affected a bank lending decision. The underlying motivation for this research project was that prior research had not sufficiently

examined the impact of the type of accounting service on users' decisions. Nearly all prior research studies on compilations and reviews focused on users' perceptions rather than on users' decisions. Two research studies did investigate the impact of these assurance levels on the decisions of a user. Johnson, Pany, and White [1983] examined the effects of both the compilation and review reports on a lending decision, while Hicks [1982] examined the effect of the compilation report on a lending decision. Both studies found that the level of assurance did not affect the loan officer's decision. This research study attempted to improve on the design of the prior research studies by including other factors--specifically, size of the CPA firm and capital structure--as independent variables, thus reducing the experimental error.

Theoretically, the quality of the financial statements increases and the risk to the user decreases as the level of accounting service increases. Therefore, since users are assumed to be risk averse, the amount of the loan should increase and/or the interest rate should decrease as the level of service increases.

To test the effect of the level of accounting service on a bank lending decision, questionnaires were mailed to 1120 bank loan officers. The response rate was 46.1 per cent. The results of the study showed that the level of accounting service, the size of the CPA firm, and

the capital structure of the company all affected the line of credit decision. Specifically, the audit report resulted in a statistically significant higher loan size than a compilation and no accountant's report. A statistically significant difference was not found between an audit and a review, and among a review, a compilation, and no accountant's report. The size of the CPA firm also had a significant effect on the loan size. An accounting service performed by a large international CPA firm resulted in a larger loan than when the service was performed by a local CPA firm. The capital structure of the company significantly affected both the loan size and the interest rate.

The study also investigated the effect of the type of accounting service and the size of the CPA firm on certain perceptions of the bank lending officers. The perceptions dealt with the amount of certain types of testing (i.e., inquiries, analytical review, compliance, and substantive) that the CPA performed, the amount of assurance that the CPA was giving, the amount of confidence that the banker had that the financial statements were in accordance with GAAP, and the amount of responsibility that the CPA was accepting. The findings showed that the level of accounting service had a significant affect on all of the perception variables. In addition, the size of the CPA firm had an impact on the amount of testing

that the bank loan officer perceived as being performed during the course of an engagement. That is, the bank loan officers' responses indicated that they perceived that more testing of the accounting records was performed by a large international CPA firm than by a local CPA firm.

The Implications

The results of the study showed that the level of accounting service not only affects users' perceptions, but it also affects users' decisions. This latter result was an important finding because prior research had not shown that the type of accounting service affects users' decisions. A possible implication of prior research was that many businesses were paying for unnecessary accounting services. If a compilation costs substantially less than an audit, then why should a company pay extra for an audit when the level of accounting service has no effect on users' decisions?

The findings of this research may be useful to nonpublic businesses. The results show that the type of accounting report affects the loan size, but generally does not affect the interest rate. This finding implies that a nonpublic business may not be able to reduce its interest cost by obtaining a higher level of service. However, a company may be able to obtain a larger loan size when the financial statements are accompanied by

an audit report. In addition, the results indicate that the size of the line of credit also increases when the report has been performed by a large international firm than when the report has been performed by a local firm of an unknown reputation.

The results may also be helpful to bankers and to the ARSC. The responses to the questionnaire indicate that bank loan officers are not correctly receiving the messages of the review report as intended by the ARSC. The bank loan officers apparently are not perceiving the review report to be much different than the compilation report. The responses indicate that bank loan officers feel that few analytical review procedures and inquiries are performed during a review engagement. SSARS No. 1 was issued to enable the CPA to give a level of assurance between the assurance provided by an audit and the no assurance of a disclaimer. Based on the results of this study, the bankers perceived only a slight difference between a review, a compilation, and no accountant's report. If this conclusion is correct, then in effect, only two levels of assurance are perceived by bank loan officers. These two levels are the same two levels (i.e., no assurance and the assurance of an audit) that were allowed before the issuance of SSARS. Perhaps either the ARSC should investigate the possibility of changing

the wording of the review report or adopt a campaign to educate users as to the meaning of the review report.

The Limitations

As in the case of all mailed questionnaires, some of the subjects did not respond. To help minimize this nonresponse bias, a post card reminder was sent a few days after the initial mailing. Then approximately two weeks after the first mailing, a second questionnaire was sent to the nonrespondents. The rate of response was 46.1 per cent, which is considered good for this type of survey. A higher rate of response is rare [Kerlinger, 1973]. An analysis of the early responses with later responses [Oppenheim, 1966] found no difference as to when the questionnaires were completed in the decision variables and only one minor difference in the perception variables. Specifically, the first 170 responses were compared to the last 170 responses. One hundred seventy responses represents approximately one third of the total sample of 512. The early and late responses were compared by including these two groups as a blocking variable in the two MANOVA models. The MANOVA models for the decision variables and the perception variables resulted in p-values for the response effect (i.e., whether the response was one of the first 170 or the last 170) of

.3644 and .2330, respectively, which were not significant.[1]

Whenever a questionnaire is used, some ambiguity is likely to occur. To reduce any possible ambiguity, the questionnaires were designed after discussions with four practicing bank loan officers. The questionnaires were then pretested with 22 bank lending officers in order to further decrease any remaining ambiguities.

In addition to the pretesting of the questionnaire, a validity check was incorporated in the questionnaire to test whether the bank loan officers carefully read the financial information contained in the questionnaire before they made their responses. On the last page of the questionnaire, the subjects were asked to rate the capital structure of the company that they analyzed on an 11-point scale, ranging from extremely weak to extremely strong. The subjects were asked to make such a rating without turning back to any previous page. If the respondent marked anything above a 7 for this question when the questionnaire contained the company with a weak capital structure, the observation was eliminated from

---

[1]Due to the significant interaction caused by Question 6, it was excluded from the MANOVA model, and five separate ANOVAs (i.e., one for each level of each factor) were performed. A difference was found (p-value of .0224) as to when the response was received for the questionnaires containing a local CPA firm. Because two MANOVAs and five ANOVAs were performed and only one difference was found for one perception question at one level of accounting firm, the conclusion was drawn that when the questionnaire was received had no significant impact on the responses.

the analysis. For the questionnaire containing the company with a strong capital structure, the observation was eliminated if the respondent marked anything below a 3. The balance sheets of the companies were designed so that the company with a strong capital structure would have a debt/equity ratio equal to the upper quartile for companies in that industry, and the company with a weak capital structure would match the debt/equity ratio for companies in the lower quartile. Only 18 observations were deleted as a result of this validity test, which was slightly above four per cent of the observations used for the MANOVA model. In fact, 14 of these deletions were for the company with the weak capital structure, which was probably due to the fact that the income statements used in the study compared very favorably with RMA's industrial averages. That is, these 14 respondents may have been focussing on the income statement rather than on the balance sheet when making their response.

The order in which the questions were asked could also bias the answers. Therefore, two forms of each questionnaire were used to reduce any unintentional bias caused by the order of the questions. The questions were randomly arranged on a second questionnaire form. The form effect proved to be significant for Questions 1 and 2 at the .Ø5 level, however there was no effect

on the hypotheses testing. That is, the form of the questionnaire had no effect on the results of this study.[2]

Compared to an actual bank lending decision, the questionnaire contained in this study was simplified. As Arnold and Diamond [1981], Cohen and Hammer [1966], and others have noted, many factors affect a loan granting decision, but only a limited number of factors were included in this study. However, the experimental design of this study included more variables than previous studies. Prior research, which investigated the effect of the level of accounting service on a user's decisions, manipulated only the type of accounting report. This study included other factors that are considered important in determining the level of service that a customer should obtain, thus reducing the amount of experimental error.

The generalizability of the results of the experiment are limited by the size of the business and the type of loan decision. Generally, as the size of the business and its credit needs increase, there is a greater need for a higher level of accounting service. In addition,

---

[2]Per examination of the mean scores, the questionnaire form that presented Questions 1 and 2 as the first two questions had higher average responses than the questionnaire that listed these two questions sixth and seventh, respectively. Apparently, the higher mean responses were due to the fact that the bank lending officers had just finished reading the accountant's report when answering the first two questions, and therefore the report may have had a more significant impact on their answers. The conclusions at the .Ø5 level were identical for both forms of the questionnaire.

it is difficult to generalize the results of this study beyond a line of credit decision.

The assumptions of the statistical models were violated. MANOVA has been shown to be a robust model [Barker and Barker, 1984]. However, to further increase the robustness of the models, the observations were ranked and the analysis was then performed on the ranked data [Conover, 1980].

Future Research

The findings of this research appear to have important implications as to the design of future research projects. Most prior field experiments that have examined the effect of the accountant's report on users' decisions have used the interest rate as the main dependent variable. Without exception, these studies have found that the type of accounting report did not affect the interest rate. The results of this study showed that the type of report affects the size of the loan and generally not the interest rate. Based on the results of this one study, it appears that a possible explanation as to why the previous studies did not find that the report significantly affected a user's decision was because the amount of loan size was not incorporated into the decision.

A possible area of future research would be to include accountants' reports for a company that did not follow GAAP. The reports for compilation, review, and audit used in this study assumed that GAAP had been followed.

Future research could manipulate other variables found in this research project. Variables that might be manipulated include: size of the company, reputation of the company, relationship of the bank with the company, type of loan, type of company's business, and the profitability of the company. In addition, the capital structure and the size and reputation of the CPA firm could be manipulated at levels other than the two levels used in this study.

Future research could also investigate the effect of various assurance levels on the perceptions and decisions of different user groups. Only one user group (i.e., commercial bank loan officers) was examined in this study. Potential user groups could include lessors, savings and loan lending officers, and bank examiners. Leasing companies are a major source of funds for some companies. Savings and loan associations also have commercial lending departments. Another potential user group, which would be of interest to the banking industry, are federal and state bank examiners. A bank examiner's evaluation of the quality of a loan can be affected by the accountant's report [Wu, 1969].

BIBLIOGRAPHY

Abdel-khalik, A. Rashad, and Kamal M. El-Sheshai, "Information Choice and Utilization in an Experiment on Default Prediction," Journal of Accounting Research (Autumn, 1980), pp. 325-342.

Accounting Principles Board, "Basic Concepts and Accounting Principles Underlying Financial Statements of Business Enterprises," Accounting Principles Board Statement No. 4 (New York: American Institute of Certified Public Accountants, 1971).

Accounting and Review Services Committee, "Compilation and Review of Financial Statements," Statements on Standards for Accounting and Review Services No. 1 (New York: American Institute of Certified Public Accountants, 1978).

_____, Codification of Statements on Standards for Accounting and Review Services: Nos. 1 to 5, (New York: American Institute of Certified Public Accountants, Inc., 1983).

American Accounting Association, A Statement of Basic Accounting Theory (Sarasota, Florida: American Accounting Association, 1966).

American Institute of Certified Public Accountants, Code of Professional Ethics, reprinted in AICPA Professional Standards, Volume 2 (Chicago: Commerce Clearing House, Inc., 1979), pp. 4269-5176.

Amick, Daniel J., and Kathleen Crittenden, "Analysis of Variance and Multivariate Analysis of Variance," Introductory Multivariate Analysis, Daniel J. Amick and Herbert Walberg, eds. (Berkeley, California: McCutchan Publishing Corporation), pp. 208-235.

Arens, Alvin A., and James K. Loebbecke, Auditing: An Integrated Approach (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1980).

Arnold, Jerry L., and Michael A. Diamond, "The Market for Compilation, Review, and Audit Services," Auditing Research Monograph No. 4 (New York: American Institute of Certified Public Accountants, Inc., 1981).

Auditing Standards Board, Codification of Statements on Auditing Standards: Nos. 1 to 47 (New York: American Institute of Certified Public Accountants, Inc., 1984).

Bailey, K. E., Joseph H. Bylinski, and Michael Shields, "The Comparative Perceived Messages of Audit, Review and Compilation Reports," unpublished paper prepared for presentation at the Annual Meeting of the American Accounting Association, Toronto, 1984.

Bailey, William T., "An Appraisal of Research Designs Used to Investigate the Information Content of Audit Reports," The Accounting Review (January, 1982), pp. 141-146.

Bainbridge, D. Raymond, "Unaudited Statements--Bankers' and CPAs' Perceptions," The CPA Journal (December, 1979), pp. 11-17.

Ball, R. and P. Brown, "An Empirical Evaluation of Accounting Income Numbers," Journal of Accounting Research (Autumn, 1968), pp. 159-178.

Banks, Doyle W., and William R. Kinney, Jr., "Loss Contingency Reports and Stock Prices: An Empirical Study," Journal of Accounting Research (Spring, 1982), pp. 240-254.

Barker, Harry R., and Barbara M. Barker, Multivariate Analysis of Variance (MANOVA): A Practical Guide to Its Use in Scientific Decision Making (University, Alabama: The University of Alabama Press, 1984).

Beaver, William H., Financial Reporting: An Accounting Revolution (Englewood Cliffs, New Jersey: Prentice-Hall, 1981).

_____, "The Information Content of Annual Earnings Announcements," Empirical Research in Accounting: Selected Studies, supplement to the Journal of Accounting Research (1968), pp. 67-92.

_____, R. Clarke, and W. Wright, "The Association Between Unsystematic Security Returns and the Magnitude of the Earnings Forecast Error," Journal of Accounting Research (Autumn, 1979), pp. 316-340.

_____, S. Kettler, and M. Scholes, "The Association Between Market-Determined and Accounting-Determined Risk Measures," Accounting Review (October, 1970), pp. 654-682.

_____, and J. Manegold, "The Association Between Market-Determined and Accounting-Determined Measures of Systematic Risk," Journal of Financial and Quantitative Analysis (June, 1975), pp. 231-284.

Brenner, Vincent C., "Are Annual Reports Being Read?--An Empirical Study," The National Public Accountant (November, 1971), pp. 16-21.

Brown, Harry G., "Compilation and Review--A Step Forward?" CPA Journal (May, 1979), pp. 18-20.

Brown, Richard, A History of Accounting and Accountants (Edinburgh, Scotland: T. C. & E. C. Jack, 1905).

Carmichael, D. R., "The Assurance Function--Auditing at the Crossroads," The Journal of Accountancy (September, 1974), pp. 64-72.

_____, "Discussant's Response to `Subject To' Audit Opinions: A Preliminary Investigation of Statement Users' and Statement Issuers' Perceptions," Symposium on Auditing Research III (Champaign Urbana, Illinois: University of Illinois, 1979).

Carter, Charles E., "Impact on the Lending Decision of the Auditors' Review Report on Financial Forecasts--An Empirical Investigation," Ph.D. dissertation, University of Missouri--Columbia, 1984.

Casey, Cornelius J., "Usefulness of Accounting Ratios for Subjects' Prediction of Corporate Failure: Replication and Extension," Journal of Accounting Research (Autumn, 1980), pp. 603-613.

Cohen, Kalman J., Thomas C. Gilmore, and Frank A. Singer, "Bank Procedures for Analyzing Business Loan Applications," Analytical Methods in Banking, Kalman J. Cohen and Frederick S. Hammer, eds. (Homewood, Illinois: Richard D. Irwin, Inc., 1966), pp. 219-251.

Cohen, Kalman, and Frederick S. Hammer, Analytical Methods in Banking (Homewood, Illinois: Richard D. Irwin, Inc., 1966).

Committee on Auditing Procedure, "Extensions of Auditing Procedure," Statements on Auditing Procedure No. 1 (New York: American Institute of Accountants, 1939).

_____, "Clarification of Accountant's Report When Opinion is Omitted," Statements on Auditing Procedure No. 21 (New York: American Institute of Accountants, 1947).

_____, "Qualifications and Disclaimers," Statements on Auditing Procedure No. 32 (New York: American Institute of Certified Public Accountants, 1963).

_____, "Unaudited Financial Statements," Statement on Auditing Procedure No. 38 (New York: American Institute of Certified Public Accountants, 1967).

Committee On Basic Auditing Concepts, "A Statement of Basic Auditing Concepts," Studies in Accounting Research #6 (Sarasota, Florida: American Accounting Association, 1973).

The Commission on Auditors' Responsibilities, Report, Conclusions, and Recommendations (New York: American Institute of Certified Public Accountants, 1978).

Conover, W. J., Practical Nonparametric Statistics (New York: John Wiley, 1980).

DeAngelo, Linda Elizabeth, "Auditor Size and Audit Quality," Journal of Accounting and Economics (Nov. 3, 1981), pp. 183-199.

Demski, Joel S., "Choice Among Financial Reporting Alternatives," Accounting Review (April, 1974), pp. 221-232.

Derieux, Samuel A., "From Unaudited to Compilation and Review of Financial Statements," Annual Accounting Review, vol. 2, 1980 (New York: Harwood Academic Publishers, 1980), pp. 93-109.

Dopuch, Nicholas, and Dan Simunic, "The Nature of Competition in the Auditing Profession: A Descriptive and Normative View," Competition in the Accounting Profession, pp. 77-94.

Edmonds, Thomas P., Mattie C. Potter, and Ira R. Weiss, "Do Bankers and CPAs Have Different Views of Reports on Financial Statements?" The Journal of Commercial Bank Lending (June, 1981), pp. 52-62.

1136 Tennants' Corporation v. Max Rothenberg and Company, 277 N.Y.S. 2d 996, 1967; 319 N.Y.S. 2d 1007, 1971; 281 N.E. 2d 846, 1972.

Elliot, John Arnold, "The Association of Qualified Audit Opinions and Security Returns," Ph.D. dissertation, Cornell University, 1982.

Erdos, Paul L. Professional Mail Surveys, (Malabar, Florida: Robert E. Krieger Publishing Co., Inc., 1983).

Estes, Ralph, The Auditor's Report and Investor Behavior (Lexington, Massachusetts: Lexington Books, 1982).

Fess, Phillips E., and Richard E. Ziegler, "Readership of the Audit Report," The CPA Journal (June 1977), pp. 5-6.

Financial Accounting Standards Board, "Objectives of Financial Reporting by Business Enterprises," Statement of Financial Accounting Cocepts No. 1 (Stamford, Conneticut: Financial Accounting Standards Board, 1978).

Firth, Michael, "Qualified Audit Reports: Their Impact on Investment Decisions," The Accounting Review (July, 1978), pp. 642-650.

Foster, George, "Quarterly Earnings Data: Time Series Properties and Predictive Ability Results," Accounting Review (January, 1977), pp. 1-21.

Gonedes, Nicholas J., "Risk, Information, and the Effects of Special Accounting Items on Capital Market Equilibrium," Journal of Accounting Research (Autumn, 1975), pp. 220-256.

Gregory, William R., "Unaudited, but OK?" Perspectives in Auditing, D. R. Carmichael and John J. Willingham, eds. (New York: McGraw-Hill Book Company, 1979), pp. 496-503.

_____, and Thomas P. Kelley, "Compilation, Review, and the Division for CPA Firms--Their Impact on the Small Business Customer and His Bankers," Journal of Commercial Bank Lending (August, 1979), pp. 2-10.

Hair, Joseph F., Jr., Rolph E. Anderson, Ronald L. Tatham, and Bernie J. Graldowsky, Multivariate Data Analysis With Readings (Tulsa, Oklahoma: Petroleum Publishing Company Books, 1979).

Hicks, Margaret, "A Study of Alternative Auditor's Reports and Lending Behavior," D.B.A. dissertation, University of Maryland, 1982.

Holley, Charles L., "An Analysis and Summary of Compilation and Review," Baylor Business Studies, May-July, 1980, pp. 29-36.

Houghton, Keith A., "Audit Reports: Their Impact on the Loan Decision Process and Outcome: An Experiment," Accounting and Business Research (Winter, 1983), pp. 15-20.

Johnson, Douglas A., and Kurt Pany, "Forecasts, Auditor Review, and Bank Loan Decisions," Journal of Accounting Research (Autumn, 1984), pp. 731-743.

_____, _____, and Richard White, "Audit Reports and the Loan Decision: Actions and Perceptions," Auditing (Spring, 1983), pp. 38-51.

Keller, Stuart Bruce, "An Assessment of Individual Investor Reaction to Certain Qualified Audit Opinions," Ph.D. dissertation, The University of North Carolina at Chapel Hill, 1981.

Kelley, Thomas P., "Compilation and Review--A Revolution in Practice," The CPA Journal (April, 1979), pp. 19-27.

Kerlinger, Fred N., Foundations of Behavioral Research (New York: Holt, Rinehart and Winston, Inc., 1973).

Kleinbaum, David G., and Lawrence L. Kupper, Applied Regression Analysis and Other Multivariable Methods (North Scituate, Massachusetts: Duxbury Press, 1978).

Langenderfer, H. Q., "Society, Professions, and Accounting Curriculum," Accounting Education, James D. Edwards, ed. (American Accounting Association, 1974), pp. 38-49.

Lev, Baruch, "On the Association Between Operating Leverage and Risk," Journal of Financial and Quantitative Analysis (September, 1974), pp. 627-641.

Libby, Robert, "Use of Simulated Decision-Makers in Information Evaluation," Accounting Review (July, 1975), pp. 475-489.

_____, "Bankers' and Auditors' Perceptions of the Message Communicated by the Audit Report," Journal of Accounting Research (Spring, 1979), pp. 99-122.

_____, and Barry Lewis, "Human Information Processing Research in Accounting: The State of the Art in 1982," Accounting, Organization and Society (No. 3, 1982), pp. 231-285.

Mayper, Alan G., Robert B. Welker, and Casper E. Wiggins, Jr., "An Examination of Auditors' and Bankers' Perceptions of the Assurances Communicated in Compilation and Review Reports." An unpublished study.

McKinley, Sue, Kurt Pany, and Phillip M. J. Reckers, "An Examination of the Influence of CPA Firm Type, Size and MAS Provision on Loan Officer Decisions and Perceptions," forthcoming in Journal of Accounting Research.

Miller, Robert D., "Accounting and Review Services: Background and Concepts," The Michigan CPA (March-April, 1980), pp. 39-41.

Miller, Sandra K., "The Scope of Accountants' Liability Under SSARS #1 Remains Unclear," The National Public Accountant (October, 1979), pp. 14-22.

Morrison, Donald F., Multivariate Statistical Methods (New York: McGraw-Hill Book Company, 1976).

Neter, John, William Wasserman, and Michael H. Kutner, Applied Linear Statistical Models (Homewood, Illinois: Richard D. Irwin, Inc., 1985).

Ng, David S., "An Information Economics Analysis of Financial Reporting and External Auditing," The Accounting Review (October, 1978), pp. 910-920.

Nichols, Donald R., and David B. Smith, "Auditor Credibility and Auditor Changes," Journal of Accounting Research (Autumn, 1983), pp. 534-544.

Oppenheim, A. N., Questionnaire Design and Attitude Measurement (New York: Basic Books, Inc., 1966).

Orgler, Yair E., Analytical Methods in Loan Evaluation (Lexington, Massachusetts: Lexington Books, 1975).

Pany, Kurt, and Charles H. Smith, "Auditor Association With Quarterly Financial Information: An Empirical Test," Journal of Accounting Research (Autumn, 1982), pp. 472-481.

Rankin, Larry Joe, "A Study of the Effects of Compilation and Review Reports on CPAs' and Bankers' Perceptions of the Reliability of Financial Statements," Ph.D. Dissertation, Michigan State University, 1982.

Raymond, Robert R., "Statement on Standards for Accounting and Review Services No. 1: A Critical Evaluation," Readings and Cases in Auditing (Thomas D. Hubbard, David J. Ellison, and Robert H. Strawser, eds.; Houston, Texas: Dame Publications, Inc., 1981).

Reed, Ronald Owen, "A Study of Accountants' Procedures Performed and Bankers' Perception of Procedures Performed in Compilations and Reviews of Financial Statements," D.B.A. dissertation, Texas Tech University, 1981.

Reports, Accounting and Management Subcommittee of the U. S. Senate Committee on Government Operations, 95th Congress, 1st session, Document No. 95-34, The Accounting Establishment (Washington, D. C.: U. S. Government Printing Office, 1977).

Robert Morris Associates, Statement Studies (Philadelphia: Robert Morris Associates, 1983).

Robertson, Jack, and Frederick Davis, Auditing (Plano, Texas: Business Publications, Inc., 1982).

Sammons, Donna, "Accounting for Growth," INC. (January, 1984), pp. 75-79.

Scott, Richard, John Page, and Paul Hooper, Auditing: A Systems Approach (Reston, Virginia: Reston Publishing Company, Inc., 1982).

Snedecor, George W., and William G. Cochran, Statistical Methods (Ames, Iowa: The Iowa State University Press, 1980).

Solomon, Kenneth, Jr., Charles Chozen, and Richard L. Miller, "Compilation and Review: The Safety Factor," Journal of Accountancy (July, 1983), pp. 50-58.

Stephens, Ray G., Uses of Financial Information in Bank Lending Decisions (Ann Arbor, Michigan: University Microfilms International, 1980).

Strupeck, C. David, and Raymond Figlewicz, "Compilation and Review Services: Are They Accepted by Bankers for Loan Decisions?" The Michigan CPA (Spring, 1984), pp. 4-8.

U. S. Department of Commerce, Bureau of the Census, Statistical Abstract of the United States: 1984 (Washington: U. S. Government Printing Office, 1984).

U. S. Securities and Exchange Commission, Directory of Companies Required to File Annual Reports with the Securities and Exchange Commission: July 31, 1984 (Washington: U. S. Government Printing Office, 1984).

Wallace, Wanda Ann, "The Impact of Selected Financial Reporting Practices and the Nature of the Audit Opinion Upon Municipal Interest Cost and Bond Rating," Ph.D. dissertation, The University of Florida, 1978.

Waterston, James R., "Compilation, Review, and the Division for CPA Firms: A Banker's Perspective," The Journal of Commercial Bank Lending (August, 1979), pp. 11-18.

Weston, J. Fred, and Eugene F. Brigham, Essentials of Managerial Finance (New York: Holt, Rinehart and Winston, Inc., 1971).

Wilson, Earl Ray, "An Empirical Analysis of the Effects of Accounting and Reporting Practices on Municipal Bond Ratings and Borrowing Costs," Ph.D. Dissertation, University of Missouri, 1982.

Winer, B. J., Statistical Principles in Experimental Design (New York: McGraw-Hill Book Company, 1971).

Wu, Hisu-Kwang, "Bank Examiner Criticisms, Bank Loan Defaults, and Bank Loan Quality," The Journal of Finance (September, 1969), pp. 697-705.

Zimmer, Ian, "Law Study of the Prediction of Corporate Failure by Bank Loan Officer," Journal of Accounting Research (Autumn, 1980), pp. 629-630.

APPENDIX A

COVER LETTER FOR THE FIRST MAILING ADDRESSED TO THE NAME OF AN INDIVIDUAL

College of Business Administration
Department of Accounting
LOUISIANA STATE UNIVERSITY AND AGRICULTURAL AND MECHANICAL COLLEGE
BATON ROUGE · LOUISIANA · 70803-6304
(504) 388-6202

July 18, 1985

Mr. Glenn Butler
Winnsboro State Bank
P.O. Box 880
Winnsboro, LA 71295

Dear Mr. Butler:

Will you do us a favor?

We are conducting a survey among commercial lending officers. The primary purpose of this survey is to determine whether the type of accountants' report (i.e., audit, review, compilation, and no CPA report), the size of the CPA firm, and the capital structure of a company affect bank loan officers' line of credit decisions. Your answers will aid the accounting profession in evaluating the effects of such reports on bankers' perceptions and decisions.

Your name was selected from a list of commercial bank lending officers from 20 states. Your responses are crucial in validating the statistical results of the study. Of course all answers and comments are confidential. Your answers will be used only in combination with those of other commercial lending officers. In a pretest, bank lending officers completed the questionnaire in an average time of less than 15 minutes.

If you are interested in receiving a complimentary report on the findings of this research, just write your name and address on the enclosed postage-paid post card and place it in the mail. The post card has been enclosed to help ensure confidentiality.

Please return the completed questionnaire in the stamped reply envelope at your earliest convenience. Thank you very much for your help.

Sincerely,

Richard White, Ph.D., CPA
Assistant Professor of Accounting

Jeff Miller, CPA
Research Director

APPENDIX B

FOLLOW-UP POSTCARD REMINDER

A few days ago, a questionnaire seeking your views on a line of credit decision for a hypothetical company was mailed to you by Dr. Rich White and myself from LSU.

If you have already completed and returned the questionnaire, please accept our sincere thanks. If not, please do so today. It is extremely important that your views be included in the study's results.

Sincerely,

Jeff Miller

Jeff Miller, CPA
Research Director

APPENDIX C

COVER LETTER FOR THE SECOND MAILING NOT ADDRESSED TO THE NAME OF AN INDIVIDUAL

College of Business Administration
Department of Accounting

LOUISIANA STATE UNIVERSITY AND AGRICULTURAL AND MECHANICAL COLLEGE
BATON ROUGE · LOUISIANA · 70803-6304
(504) 388-6202

August 9, 1985

Chief Commercial Credit Officer
The Albertville National Bank
P. O. Box 10
Albertville, AL 35950

Dear Commercial Credit Officer:

About two weeks ago, Dr. Richard White and I wrote to you seeking your views on a bank lending decision and your perceptions on certain accounting-related messages. This research is for my Ph.D. dissertation, and your support is necessary for its successful completion.

If you have returned the questionnaire, thank you very much. Your assistance has been very valuable.

If you have not returned the questionnaire, will you please complete the attached questionnaire and return it to me in the stamped reply envelope? As a practicing loan officer, your response is crucial to the success of this project. In a pretest, bank loan officers completed the questionnaire in an average time of less than 15 minutes.

Of course, all answers are confidential. Your answers will be used only in combination with those of approximately 250 other commercial lending officers participating in the study.

If you are interested in receiving a complimentary report on the findings of this research, just write your name and address on the back of the return envelope or send me a post card with just your name and address on it.

I would be most happy to answer any questions you might have. Please write or call. The telephone number is (504) 388-6202.

Thank you for your valuable assistance.

Sincerely,

Jeff Miller, CPA
Research Director

APPENDIX D

SAMPLE QUESTIONNAIRE FOR AN AUDIT PERFORMED BY A LARGE INTERNATIONAL CPA FIRM FOR A COMPANY WITH A STRONG CAPITAL STRUCTURE

The financial statements of Skinner's Office Supply and Equipment Company have been audited by a **LARGE INTERNATIONAL** CPA firm. You are well acquainted with this CPA firm's good reputation. The audit report for the company is shown below.

To the Stockholders of Skinner's Office Supply and Equipment Company:

We have examined the balance sheets of Skinner's Office Supply and Equipment Company as of June 30, 1985 and 1984, and the related statements of income and retained earnings and changes in financial position for the years then ended. Our examinations were made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the financial statements referred to above present fairly the financial postion of Skinner's Office Supply and Equipment Company as of June 30, 1985 and 1984, and the results of its operations and the changes in its financial position for the years then ended, in conformity with generally accepted accounting principles applied on a consistent basis.

Large International & Co., CPAs
July 17, 1985

Please answer the following 8 questions based upon the accountant's report shown above. Your answers should be based strictly upon the audit report appearing on this page and not upon any other information that is contained in this questionnaire. Please circle the number corresponding to the best answer. Please note that question 9 should be completed after reviewing the financial information that appears on pages 4, 5, and 6.

1. How much responsibility is the CPA assuming for the accuracy of the information in the financial statements of Skinner's Office Supply and Equipment Company?

No Responsibility	0 1 2 3 4 5 6 7 8 9 10	Complete Responsibility

2. How much assurance is the CPA giving that the financial statements are presented fairly in conformity with generally accepted accounting principles (GAAP)?

No Assurance	0 1 2 3 4 5 6 7 8 9 10	Complete Assurance

Please go to the next page.

3. How confident are you that the financial statements are presented fairly in conformity with generally accepted accounting principles (GAAP)?

No Confidence — 0 1 2 3 4 5 6 7 8 9 10 — Complete Confidence

4. In order to identify questionable relationships and unusual fluctuations in the amounts appearing on the financial statements, how extensively do you feel that the CPA used analytical procedures, such as analyzing ratios and comparing the financial statement amounts with prior years' statements, budgets, and/or forecasts?

Did Not Use — 0 1 2 3 4 5 6 7 8 9 10 — Extensively Used

5. To what extent do you feel that the CPA performed tests of the account balances comprising the financial statements by examining the supporting documents or by corresponding directly with third parties, such as debtors and creditors?

No Testing — 0 1 2 3 4 5 6 7 8 9 10 — Extensive Testing

6. How much evidence do you feel that the CPA collected in an attempt to ascertain that the more important accounting control procedures were functioning during the fiscal period of the financial statements?

No Evidence — 0 1 2 3 4 5 6 7 8 9 10 — Substantial Evidence

7. To what extent do you feel that the CPA made inquiries of management concerning the general understanding of the nature of the entity's business and significant accounting matters, such as the company's record keeping procedures and actions taken at the board of director's meetings?

No Inquiries — 0 1 2 3 4 5 6 7 8 9 10 — Extensive Inquiries

8. Assume that when a compilation report is issued by a CPA, 100 points represents the amount of confidence that you have that the financial statements are presented in accordance with generally accepted accounting principles (GAAP). Given the CPA's audit report on page 1, how many points would you assign to the amount of confidence that you have that the financial statements are presented in accordance with GAAP? (For example, if you are twice as confident when an audit report is issued as compared to when a compilation report is issued, then your answer would be 200.)

_____points

Please go to the next page to answer question 9.

Question 9 is very important to this study. Please answer this question based on the following paragraph, the **AUDIT REPORT** of the **LARGE INTERNATIONAL** accounting firm, and the **FINANCIAL DATA** appearing on the three following pages (i.e., pages 4-6). Some ratios are presented on page 4 to facilitate your analysis.

Skinner's Office Supply and Equipment Company is seeking to obtain a line of credit for the next 12 months from the bank for which you work. The company is planning an aggressive marketing campaign and feels that it will need additional working capital to carry an increase in accounts receivable and inventory. The line of credit will be secured by accounts receivable. No liens currently exist on the receivables. Assume that your bank does not limit you on the size of the loan that you may grant and that your bank is not limited in the amount of the funds that they have available to lend. In an actual loan evaluation, you would have access to more information, including a specific amount requested by the potential borrower. However, to the best of your ability, please indicate the maximum amount of a line of credit and the minimum interest rate premium (above prime) that you would recommend. Assume that the prime rate is 10%, and that the line of credit will be secured by the company's accounts receivable.

9. I would recommend a line of credit of $_____

and an interest rate premium (above prime) of _____%

Please turn to page 7 to complete this questionnaire.

Description of the Company

Skinner's Office Supply and Equipment Company has experienced steady growth since the company began operations. Company sales have increased on the average of 10% per year for the last three years. Management expects sales to increase by 15% and operating expenses by 12% for the coming fiscal year. In addition, if your bank offers the company a line of credit, there is a strong possibility that the customer will look to your bank for most of its credit needs.

Bob Skinner is the president and principal stockholder. He founded Skinner's Office Supply and Equipment Company in 1980. He is 52 years old, a college graduate, married, and has four children. Most all of his personal wealth is in his business.

In order to help facilitate your analysis, some key ratios for the company have been computed below. The lower, median, and upper quartiles were obtained from Robert Morris Associates' Statement Studies.

Ratios

Type of Ratios	Skinner's Corp.	Lower Quartile	Median	Upper Quartile
current	2.1	1.2	1.6	2.3
quick	1.1	.5	.7	1.1
debt/equity	.9	4.5	2.0	.9
sales/assets	3.8	2.1	2.8	3.6
sales/receivables	13.9	7.7	10.7	14.2
COS/inventory	6.8	2.6	4.3	6.9

Notes to the Financial Statements

1. Accounts Receivable

Accounts Receivable, as of June 30, 1985, consists of the following: $192,500 are current; $27,100 are 1 to 30 days past due; $19,400 are 31 to 60 days past due; and $15,200 are more than 60 days past due. The doubtful accounts allowance is $10,000.

2. Inventories

Inventories are valued at the lower of cost (first-in, first-out) or market.

3. Depreciation

Depreciation is calculated by using the straight-line method of depreciation over the estimated useful lives of the property.

4. Long-Term Debt

Long-term debt consists of various notes that are payable in installments. The interest rates on these notes range from 11% to 17% interest. Inventories serve as the collateral. Scheduled maturities as of June 30, 1985, for the five fiscal years 1986 through 1990 are $70,000 (which is included in the current Notes Payable), $35,100, $32,000, $25,000, and $20,000, respectively.

SKINNER'S OFFICE SUPPLY AND EQUIPMENT COMPANY

BALANCE SHEETS

ASSETS

	June 30 1985	June 30 1984
Current Assets:		
Cash	$ 78,100	$ 73,000
Accounts Receivable, net (Note 1)	244,200	230,100
Inventories	313,800	296,200
Total Current Assets	$636,100	$599,300
Fixed Assets:		
Plant and Equipment	$382,500	$341,600
Less Accumulated Depreciation	127,900	112,900
Total Fixed Assets	$254,600	$228,700
Total Assets	$890,700	$828,000

LIABILITIES AND STOCKHOLDERS' EQUITY

Current Liabilities:		
Notes Payable	$102,800	$106,100
Accounts Payable	190,700	182,000
Income Taxes Payable	4,900	2,500
Total Current Liabilities	$298,400	$290,600
Long-Term Notes Payable (Note 4)	$124,100	$141,200
Total Liabilities	$422,500	$431,800
Stockholders' Equity:		
Common Stock, $25 par value, 10,000 shares authorized and issued	$250,000	$250,000
Contributed Capital	50,000	50,000
Retained Earnings	168,200	96,200
Total Stockholders' Equity	$468,200	$396,200
Total Liabilities and Stockholders' Equity	$890,700	$828,000

SKINNER'S OFFICE SUPPLY AND EQUIPMENT

STATEMENTS OF INCOME AND RETAINED EARNINGS

	For Year Ended June 30 1985	1984
Sales	$3,400,000	$3,150,000
Cost of Goods Sold	$2,140,000	$1,984,500
Operating Expenses	1,137,500	1,059,000
	$3,277,500	$3,043,500
Operating Income	$ 122,500	$ 106,500
Interest Expense	33,500	34,500
Income Before Taxes	$ 89,000	$ 72,000
Income Taxes	17,000	9,400
Net Income	$ 72,000	$ 62,600
Retained Earnings at Beginning of Year	96,200	33,600
Retained Earnings at End of Year	$ 168,200	$ 96,200
Earnings Per Share	$ 7.20	$ 6.26

STATEMENT OF CHANGES IN FINANCIAL POSITION

	For Year Ended June 30 1985	1984
Sources of Working Capital:		
Net Income	$ 72,000	$ 62,600
Add: Depreciation	25,000	22,700
Working Capital Provided By Operations	$ 97,000	$ 85,300
Proceeds from Long-Term Borrowings	57,400	62,000
Total Sources of Working Capital	$154,400	$147,300
Uses of Working Capital:		
Purchase of Equipment	$ 50,900	$ 52,000
Payment of Long-Term Debt	74,500	71,800
Total Uses of Working Capital	$125,400	$123,800
Increase in Working Capital	$ 29,000	$ 23,500

Please answer the following general questions.

1. How many years have you served as a bank loan officer?
_____years

2. What is the highest educational level that you completed? (please circle one)
   a. high school
   b. some college
   c. bachelors degree
   d. masters degree or higher

3. What is the approximate size of your bank, in terms of assets? (please circle one)
   a. under $25,000,000
   b. $25,000,000 to $50,000,000
   c. $50,000,000 to $100,000,000
   d. $100,000,000 to $500,000,000
   e. $500,000,000 to $1,000,000,000
   f. above $1,000,000,000

4. What is the average loan size that you normally recommend?
   a. under $50,000
   b. $50,000 to $100,000
   c. $100,001 to $200,000
   d. $200,001 to $400,000
   e. above $400,000

5. In the bank for which you work, are loans approved by yourself or by yourself and a committee? (please circle one)
   a. yourself
   b. yourself and a committee
   c. other (please specify) _____

6. Without turning back to the financial data contained in this questionnaire, how would you rate the capital structure of the company that you analyzed? (Please cirlce the number corresponding to your best estimate.)

Extremely Weak	0	1	2	3	4	5	6	7	8	9	10	Extremely Strong

Thank you for your time. Your responses have been very valuable.

APPENDIX E

SAMPLE QUESTIONNAIRE FOR A REVIEW PERFORMED BY A LOCAL CPA FIRM FOR A COMPANY WITH A WEAK CAPITAL STRUCTURE

The financial statements of Williams' Office Supply and Equipment Company have been reviewed by a **LOCAL** CPA firm. You are not acquainted with this CPA firm. The review report for the company is shown below.

To the Stockholders of Williams' Office Supply and Equipment Company:

We have reviewed the accompanying balance sheets of Williams' Office Supply and Equipment Company as of June 30, 1985 and 1984, and the related statements of income and retained earnings and changes in financial position for the years then ended, in accordance with standards established by the American Institute of Certified Public Accountants. All information included in these financial statements is the representation of the management of Williams' Office Supply and Equipment Company.

A review consists principally of inquiries of company personnel and analytical procedures applied to financial data. It is substantially less in scope than an examination in accordance with generally accepted auditing standards, the objective of which is the expression of an opinion regarding the financial statements taken as a whole. Accordingly, we do not express such an opinion.

Based on our review, we are not aware of any material modifications that should be made to the accompanying financial statements in order for them to be in conformity with generally accepted accounting principles.

Local & Co., CPAs
July 17, 1985

Please answer the following 8 questions based upon the accountant's report shown above. Your answers should be based strictly upon the review report appearing on this page and not upon any other information that is contained in this questionnaire. Please circle the number corresponding to the best answer. Please note that question 9 should be completed after reviewing the financial information that appears on pages 4, 5, and 6.

1. How much responsibility is the CPA assuming for the accuracy of the information in the financial statements of Williams' Office Supply and Equipment Company?

No Responsibility — 0 1 2 3 4 5 6 7 8 9 10 — Complete Responsibility

2. How much assurance is the CPA giving that the financial statements are presented fairly in conformity with generally accepted accounting principles (GAAP)?

No Assurance — 0 1 2 3 4 5 6 7 8 9 10 — Complete Assurance

Please go to the next page.

3. How confident are you that the financial statements are presented fairly in conformity with generally accepted accounting principles (GAAP)?

No Confidence	0 1 2 3 4 5 6 7 8 9 10	Complete Confidence

4. In order to identify questionable relationships and unusual fluctuations in the amounts appearing on the financial statements, how extensively do you feel that the CPA used analytical procedures, such as analyzing ratios and comparing the financial statement amounts with prior years' statements, budgets, and/or forecasts?

Did Not Use	0 1 2 3 4 5 6 7 8 9 10	Extensively Used

5. To what extent do you feel that the CPA performed tests of the account balances comprising the financial statements by examining the supporting documents or by corresponding directly with third parties, such as debtors and creditors?

No Testing	0 1 2 3 4 5 6 7 8 9 10	Extensive Testing

6. How much evidence do you feel that the CPA collected in an attempt to ascertain that the more important accounting control procedures were functioning during the fiscal period of the financial statements?

No Evidence	0 1 2 3 4 5 6 7 8 9 10	Substantial Evidence

7. To what extent do you feel that the CPA made inquiries of management concerning the general understanding of the nature of the entity's business and significant accounting matters, such as the company's record keeping procedures and actions taken at the board of director's meetings?

No Inquiries	0 1 2 3 4 5 6 7 8 9 10	Extensive Inquiries

8. Assume that when an audit report is issued by a CPA, 100 points represents the amount of confidence that you have that the financial statements are presented in accordance with generally accepted accounting principles (GAAP). Given the CPA's review report on page 1, how many points would you assign to the amount of confidence that you have that the financial statements are presented in accordance with GAAP? (For example, if you are 90% as confident when a review report is issued as compared to when an audit report is issued, then your answer would be 90.)

_____points

Please go to the next page to answer question 9.

Question 9 is very important to this study. Please answer this question based on the following paragraph, the **REVIEW REPORT** of the **LOCAL** accounting firm, and the **FINANCIAL DATA** appearing on the three following pages (i.e., pages 4-6). Some ratios are presented on page 4 to facilitate your analysis.

Williams' Office Supply and Equipment Company is seeking to obtain a line of credit for the next 12 months from the bank for which you work. The company is planning an aggressive marketing campaign and feels that it will need additional working capital to carry an increase in accounts receivable and inventory. The line of credit will be secured by accounts receivable. No liens currently exist on the receivables. Assume that your bank does not limit you on the size of the loan that you may grant and that your bank is not limited in the amount of the funds that they have available to lend. In an actual loan evaluation, you would have access to more information, including a specific amount requested by the potential borrower. However, to the best of your ability, please indicate the maximum amount of a line of credit and the minimum interest rate premium (above prime) that you would recommend. Assume that the prime rate is 10%, and that the line of credit will be secured by the company's accounts receivable.

9. I would recommend a line of credit of $_____

and an interest rate premium (above prime) of _____%

Please turn to page 7 to complete this questionnaire.

Description of the Company

Williams' Office Supply and Equipment Company has experienced steady growth since the company began operations. Company sales have increased on the average of 10% per year for the last three years. Management expects sales to increase by 15% and operating expenses by 12% for the coming fiscal year. In addition, if your bank offers the company a line of credit, there is a strong possibility that the customer will look to your bank for most of its credit needs.

Bob Williams is the president and principal stockholder. He founded Williams' Office Supply and Equipment Company in 1980. He is 52 years old, a college graduate, married, and has four children. Most all of his personal wealth is in his business.

In order to help facilitate your analysis, some key ratios for the company have been computed below. The lower, median, and upper quartiles were obtained from Robert Morris Associates' Statement Studies.

Ratios

Type of Ratios	Williams' Corp.	Lower Quartile	Median	Upper Quartile
current	1.4	1.2	1.6	2.3
quick	.7	.5	.7	1.1
debt/equity	3.3	4.5	2.0	.9
sales/assets	3.8	2.1	2.8	3.6
sales/receivables	13.9	7.7	10.7	14.2
COS/inventory	6.8	2.6	4.3	6.9

Notes to the Financial Statements

1. Accounts Receivable

Accounts Receivable, as of June 30, 1985, consists of the following: $192,500 are current; $27,100 are 1 to 30 days past due; $19,400 are 31 to 60 days past due; and $15,200 are more than 60 days past due. The doubtful accounts allowance is $10,000.

2. Inventories

Inventories are valued at the lower of cost (first-in, first-out) or market.

3. Depreciation

Depreciation is calculated by using the straight-line method of depreciation over the estimated useful lives of the property.

4. Long-Term Debt

Long-term debt consists of various notes that are payable in installments. The interest rates on these notes range from 11% to 17% interest. Inventories serve as the collateral. Scheduled maturities as of June 30, 1985, for the five fiscal years 1986 through 1990 are $120,000 (which is included in the current Notes Payable), $70,100, $62,000, $45,000, and $40,000, respectively.

WILLIAMS' OFFICE SUPPLY AND EQUIPMENT COMPANY

BALANCE SHEETS

ASSETS

	June 30 1985	June 30 1984
Current Assets:		
Cash	$ 78,100	$ 73,000
Accounts Receivable, net (Note 1)	244,200	230,100
Inventories	313,800	296,200
Total Current Assets	$636,100	$599,300
Fixed Assets:		
Plant and Equipment	$382,500	$341,600
Less Accumulated Depreciation	127,900	112,900
Total Fixed Assets	$254,600	$228,700
Total Assets	$890,700	$828,000

LIABILITIES AND STOCKHOLDERS' EQUITY

Current Liabilities:		
Notes Payable	$172,800	$177,100
Accounts Payable	269,900	260,200
Income Taxes Payable	4,900	2,500
Total Current Liabilities	$447,600	$439,800
Long-Term Notes Payable (Note 4)	$236,600	$236,700
Total Liabilities	$684,200	$676,500
Stockholders' Equity:		
Common Stock, $5 par value, 10,000 shares authorized and issued	$ 50,000	$ 50,000
Contributed Capital	5,000	5,000
Retained Earnings	151,500	96,500
Total Stockholders' Equity	$206,500	$151,500
Total Liabilities and Stockholders' Equity	$890,700	$828,000

WILLIAMS' OFFICE SUPPLY AND EQUIPMENT

STATEMENTS OF INCOME AND RETAINED EARNINGS

	For Year Ended June 30 1985	1984
Sales	$3,400,000	$3,150,000
Cost of Goods Sold	$2,140,000	$1,984,500
Operating Expenses	1,137,500	1,059,000
	$3,277,500	$3,043,500
Operating Income	$ 122,500	$ 106,500
Interest Expense	58,800	60,100
Income Before Income Taxes	$ 63,700	46,400
Income Taxes	8,700	4,200
Net Income	$ 55,000	$ 42,200
Retained Earnings at Beginning of Year	96,500	54,300
Retained Earnings at End of Year	$ 151,500	$ 96,500
Earnings Per Share	$ 5.50	$ 4.22

STATEMENT OF CHANGES IN FINANCIAL POSITION

	For Year Ended June 30 1985	1984
Sources of Working Capital:		
Net Income	$ 55,000	$ 42,200
Add: Depreciation	25,000	22,700
Working Capital Provided By Operations	$ 80,000	$ 64,900
Proceeds from Long-Term Borrowings	74,400	82,400
Total Sources of Working Capital	$154,400	$147,300
Uses of Working Capital:		
Purchase of Equipment	$ 50,900	$ 52,000
Payment of Long-Term Debt	74,500	71,800
Total Uses of Working Capital	$125,400	$123,800
Increase in Working Capital	$ 29,000	$ 23,500

Please answer the following general questions.

1. How many years have you served as a bank loan officer?
_____years

2. What is the highest educational level that you completed? (please circle one)
   a. high school
   b. some college
   c. bachelors degree
   d. masters degree or higher

3. What is the approximate size of your bank, in terms of assets? (please circle one)
   a. under $25,000,000
   b. $25,000,000 to $50,000,000
   c. $50,000,000 to $100,000,000
   d. $100,000,000 to $500,000,000
   e. $500,000,000 to $1,000,000,000
   f. above $1,000,000,000

4. What is the average loan size that you normally recommend?
   a. under $50,000
   b. $50,000 to $100,000
   c. $100,001 to $200,000
   d. $200,001 to $400,000
   e. above $400,000

5. In the bank for which you work, are loans approved by yourself or by yourself and a committee? (please circle one)
   a. yourself
   b. yourself and a committee
   c. other (please specify) _____

6. Without turning back to the financial data contained in this questionnaire, how would you rate the capital structure of the company that you analyzed? (Please cirlce the number corresponding to your best estimate.)

Extremely Weak	0	1	2	3	4	5	6	7	8	9	10	Extremely Strong

Thank you for your time. Your responses have been very valuable.

APPENDIX F

SAMPLE QUESTIONNAIRE FOR A COMPILATION PERFORMED BY A LARGE INTERNATIONAL CPA FIRM FOR A COMPANY WITH A WEAK CAPITAL STRUCTURE

The financial statements of Williams' Office Supply and Equipment Company have been compiled by a **LARGE INTERNATIONAL** CPA firm. You are well acquainted with this CPA firm's good reputation. The compilation report for the company is shown below.

To the Stockholders of Williams' Office Supply and Equipment Company:

We have compiled the accompanying balance sheets of Williams' Office Supply and Equipment Company as of June 30, 1985 and 1984, and the related statements of income and retained earnings and changes in financial position for the years then ended, in accordance with standards established by the American Institute of Certified Public Accountants.

A compilation is limited to presenting in the form of financial statements information that is the representation of management. We have not audited or reviewed the accompanying financial statements and, accordingly, do not express an opinion or any other form of assurance on them.

Large International & Co., CPAs
July 17, 1985

Please answer the following 8 questions based upon the accountant's report shown above. Your answers should be based strictly upon the compilation report appearing on this page and not upon any other information that is contained in this questionnaire. Please circle the number corresponding to the best answer. Please note that question 9 should be completed after reviewing the financial information that appears on pages 4, 5, and 6.

1. To what extent do you feel that the CPA performed tests of the account balances comprising the financial statements by examining the supporting documents or by corresponding directly with third parties, such as debtors and creditors?

No Testing	0 1 2 3 4 5 6 7 8 9 10	Extensive Testing

2. How much evidence do you feel that the CPA collected in an attempt to ascertain that the more important accounting control procedures were functioning during the fiscal period of the financial statements?

No Evidence	0 1 2 3 4 5 6 7 8 9 10	Substantial Evidence

Please go to the next page.

3. In order to identify questionable relationships and unusual fluctuations in the amounts appearing on the financial statements, how extensively do you feel that the CPA used analytical procedures, such as analyzing ratios and comparing the financial statement amounts with prior years' statements, budgets, and/or forecasts?

Did Not Use	0 1 2 3 4 5 6 7 8 9 10	Extensively Used

4. To what extent do you feel that the CPA made inquiries of management concerning the general understanding of the nature of the entity's business and significant accounting matters, such as the company's record keeping procedures and actions taken at the board of director's meetings?

No Inquiries	0 1 2 3 4 5 6 7 8 9 10	Extensive Inquiries

5. How confident are you that the financial statements are presented fairly in conformity with generally accepted accounting principles (GAAP)?

No Confidence	0 1 2 3 4 5 6 7 8 9 10	Complete Confidence

6. How much responsibility is the CPA assuming for the accuracy of the information in the financial statements of Williams' Office Supply and Equipment Company?

No Responsibility	0 1 2 3 4 5 6 7 8 9 10	Complete Responsibility

7. How much assurance is the CPA giving that the financial statements are presented fairly in conformity with generally accepted accounting principles (GAAP)?

No Assurance	0 1 2 3 4 5 6 7 8 9 10	Complete Assurance

8. Assume that when an audit report is issued by a CPA, 100 points represents the amount of confidence that you have that the financial statements are presented in accordance with generally accepted accounting principles (GAAP). Given the CPA's compilation report on page 1, how many points would you assign to the amount of confidence that you have that the financial statements are presented in accordance with GAAP? (For example, if you are 90% as confident when a compilation report is issued as compared to when an audit report is issued, then your answer would be 90.)

_____points

Please go to the next page to answer question 9.

Question 9 is very important to this study. Please answer this question based on the following paragraph, the **COMPILATION REPORT** of the **LARGE INTERNATIONAL** accounting firm, and the **FINANCIAL DATA** appearing on the three following pages (i.e., pages 4-6). Some ratios are presented on page 4 to facilitate your analysis.

Williams' Office Supply and Equipment Company is seeking to obtain a line of credit for the next 12 months from the bank for which you work. The company is planning an aggressive marketing campaign and feels that it will need additional working capital to carry an increase in accounts receivable and inventory. The line of credit will be secured by accounts receivable. No liens currently exist on the receivables. Assume that your bank does not limit you on the size of the loan that you may grant and that your bank is not limited in the amount of the funds that they have available to lend. In an actual loan evaluation, you would have access to more information, including a specific amount requested by the potential borrower. However, to the best of your ability, please indicate the maximum amount of a line of credit and the minimum interest rate premium (above prime) that you would recommend. Assume that the prime rate is 10%, and that the line of credit will be secured by the company's accounts receivable.

9. I would recommend a line of credit of $_____

and an interest rate premium (above prime) of _____%

Please turn to page 7 to complete this questionnaire.

Description of the Company

Williams' Office Supply and Equipment Company has experienced steady growth since the company began operations. Company sales have increased on the average of 10% per year for the last three years. Management expects sales to increase by 15% and operating expenses by 12% for the coming fiscal year. In addition, if your bank offers the company a line of credit, there is a strong possibility that the customer will look to your bank for most of its credit needs.

Bob Williams is the president and principal stockholder. He founded Williams' Office Supply and Equipment Company in 1980. He is 52 years old, a college graduate, married, and has four children. Most all of his personal wealth is in his business.

In order to help facilitate your analysis, some key ratios for the company have been computed below. The lower, median, and upper quartiles were obtained from Robert Morris Associates' Statement Studies.

Ratios

Type of Ratios	Williams' Corp.	Lower Quartile	Median	Upper Quartile
current	1.4	1.2	1.6	2.3
quick	.7	.5	.7	1.1
debt/equity	3.3	4.5	2.0	.9
sales/assets	3.8	2.1	2.8	3.6
sales/receivables	13.9	7.7	10.7	14.2
COS/inventory	6.8	2.6	4.3	6.9

Notes to the Financial Statements

1. Accounts Receivable

Accounts Receivable, as of June 30, 1985, consists of the following: $192,500 are current; $27,100 are 1 to 30 days past due; $19,400 are 31 to 60 days past due; and $15,200 are more than 60 days past due. The doubtful accounts allowance is $10,000.

2. Inventories

Inventories are valued at the lower of cost (first-in, first-out) or market.

3. Depreciation

Depreciation is calculated by using the straight-line method of depreciation over the estimated useful lives of the property.

4. Long-Term Debt

Long-term debt consists of various notes that are payable in installments. The interest rates on these notes range from 11% to 17% interest. Inventories serve as the collateral. Scheduled maturities as of June 30, 1985, for the five fiscal years 1986 through 1990 are $120,000 (which is included in the current Notes Payable), $70,100, $62,000, $45,000, and $40,000, respectively.

WILLIAMS' OFFICE SUPPLY AND EQUIPMENT COMPANY

BALANCE SHEETS

ASSETS

	June 30 1985	June 30 1984
Current Assets:		
Cash	$ 78,100	$ 73,000
Accounts Receivable, net (Note 1)	244,200	230,100
Inventories	313,800	296,200
Total Current Assets	$636,100	$599,300
Fixed Assets:		
Plant and Equipment	$382,500	$341,600
Less Accumulated Depreciation	127,900	112,900
Total Fixed Assets	$254,600	$228,700
Total Assets	$890,700	$828,000

LIABILITIES AND STOCKHOLDERS' EQUITY

Current Liabilities:		
Notes Payable	$172,800	$177,100
Accounts Payable	269,900	260,200
Income Taxes Payable	4,900	2,500
Total Current Liabilities	$447,600	$439,800
Long-Term Notes Payable (Note 4)	$236,600	$236,700
Total Liabilities	$684,200	$676,500
Stockholders' Equity:		
Common Stock, $5 par value, 10,000 shares authorized and issued	$ 50,000	$ 50,000
Contributed Capital	5,000	5,000
Retained Earnings	151,500	96,500
Total Stockholders' Equity	$206,500	$151,500
Total Liabilities and Stockholders' Equity	$890,700	$828,000

WILLIAMS' OFFICE SUPPLY AND EQUIPMENT

STATEMENTS OF INCOME AND RETAINED EARNINGS

	For Year Ended June 30 1985	1984
Sales	$3,400,000	$3,150,000
Cost of Goods Sold	$2,140,000	$1,984,500
Operating Expenses	1,137,500	1,059,000
	$3,277,500	$3,043,500
Operating Income	$ 122,500	$ 106,500
Interest Expense	58,800	60,100
Income Before Income Taxes	$ 63,700	46,400
Income Taxes	8,700	4,200
Net Income	$ 55,000	$ 42,200
Retained Earnings at Beginning of Year	96,500	54,300
Retained Earnings at End of Year	$ 151,500	$ 96,500
Earnings Per Share	$ 5.50	$ 4.22

STATEMENT OF CHANGES IN FINANCIAL POSITION

	For Year Ended June 30 1985	1984
Sources of Working Capital:		
Net Income	$ 55,000	$ 42,200
Add: Depreciation	25,000	22,700
Working Capital Provided By Operations	$ 80,000	$ 64,900
Proceeds from Long-Term Borrowings	74,400	82,400
Total Sources of Working Capital	$154,400	$147,300
Uses of Working Capital:		
Purchase of Equipment	$ 50,900	$ 52,000
Payment of Long-Term Debt	74,500	71,800
Total Uses of Working Capital	$125,400	$123,800
Increase in Working Capital	$ 29,000	$ 23,500

Please answer the following general questions.

1. How many years have you served as a bank loan officer?
_____years

2. What is the highest educational level that you completed? (please circle one)
   a. high school
   b. some college
   c. bachelors degree
   d. masters degree or higher

3. What is the approximate size of your bank, in terms of assets? (please circle one)
   a. under $25,000,000
   b. $25,000,000 to $50,000,000
   c. $50,000,000 to $100,000,000
   d. $100,000,000 to $500,000,000
   e. $500,000,000 to $1,000,000,000
   f. above $1,000,000,000

4. What is the average loan size that you normally recommend?
   a. under $50,000
   b. $50,000 to $100,000
   c. $100,001 to $200,000
   d. $200,001 to $400,000
   e. above $400,000

5. In the bank for which you work, are loans approved by yourself or by yourself and a committee? (please circle one)
   a. yourself
   b. yourself and a committee
   c. other (please specify) _____

6. Without turning back to the financial data contained in this questionnaire, how would you rate the capital structure of the company that you analyzed? (Please cirlce the number corresponding to your best estimate.)

Extremely Weak	0	1	2	3	4	5	6	7	8	9	10	Extremely Strong

Thank you for your time. Your responses have been very valuable.

APPENDIX G

SAMPLE QUESTIONNAIRE FOR NO ACCOUNTANT'S ASSOCIATION FOR A COMPANY WITH A STRONG CAPITAL STRUCTURE

The financial statements of Skinner's Office Supply and Equipment Company have not been audited, reviewed, or compiled by a CPA firm. That is, the financial statements were prepared solely by the management of Skinner's Office Supply and Equipment Company.

Please answer the following 2 questions without referring to any other information contained in this questionnaire. Please note that question 3 should be completed after reviewing the financial information that appears on pages 3, 4, and 5.

1. Assume that when an audit report is issued by a CPA, 100 points represents the amount of confidence that you have that the financial statements are presented in accordance with generally accepted accounting principles (GAAP). Given the fact that the financial statements of Skinner's Office Supply and Equipment Company have not been audited, reviewed, or compiled, how many points would you assign to the amount of confidence that you have that the financial statements are presented in accordance with GAAP? (For example, if you are 90% as confident when there is not any type of CPA report issued as compared to when an audit report is issued, then your answer would be 90.)

_____points

2. How confident are you that the financial statements are presented fairly in conformity with generally accepted accounting principles (GAAP)? (Please circle the number corresponding to the best answer.)

No Confidence	0 1 2 3 4 5 6 7 8 9 10	Complete Confidence

Please go to the next page to answer question 3.

Question 3 is very important to this study. Please answer this question based on the following paragraph, the **FINANCIAL DATA** appearing on the three following pages (i.e., pages 3-5), and the fact that **no accountant's report** has been issued. Some ratios are presented on page 3 to facilitate your analysis.

Skinner's Office Supply and Equipment Company is seeking to obtain a line of credit for the next 12 months from the bank for which you work. The company is planning an aggressive marketing campaign and feels that it will need additional working capital to carry an increase in accounts receivable and inventory. The line of credit will be secured by accounts receivable. No liens currently exist on the receivables. Assume that your bank does not limit you on the size of the loan that you may grant and that your bank is not limited in the amount of the funds that they have available to lend. In an actual loan evaluation, you would have access to more information, including a specific amount requested by the potential borrower. However, to the best of your ability, please indicate the maximum amount of a line of credit and the minimum interest rate premium (above prime) that you would recommend. Assume that the prime rate is 10%, and that the line of credit will be secured by the company's accounts receivable.

3. I would recommend a line of credit of $_____

and an interest rate premium (above prime) of _____%

Please turn to page 6 to complete this questionnaire.

Description of the Company

Skinner's Office Supply and Equipment Company has experienced steady growth since the company began operations. Company sales have increased on the average of 10% per year for the last three years. Management expects sales to increase by 15% and operating expenses by 12% for the coming fiscal year. In addition, if your bank offers the company a line of credit, there is a strong possibility that the customer will look to your bank for most of its credit needs.

Bob Skinner is the president and principal stockholder. He founded Skinner's Office Supply and Equipment Company in 1980. He is 52 years old, a college graduate, married, and has four children. Most all of his personal wealth is in his business.

In order to help facilitate your analysis, some key ratios for the company have been computed below. The lower, median, and upper quartiles were obtained from Robert Morris Associates' Statement Studies.

Ratios

Type of Ratios	Skinner's Corp.	Lower Quartile	Median	Upper Quartile
current	2.1	1.2	1.6	2.3
quick	1.1	.5	.7	1.1
debt/equity	.9	4.5	2.0	.9
sales/assets	3.8	2.1	2.8	3.6
sales/receivables	13.9	7.7	10.7	14.2
COS/inventory	6.8	2.6	4.3	6.9

Notes to the Financial Statements

1. Accounts Receivable

Accounts Receivable, as of June 30, 1985, consists of the following: $192,500 are current; $27,100 are 1 to 30 days past due; $19,400 are 31 to 60 days past due; and $15,200 are more than 60 days past due. The doubtful accounts allowance is $10,000.

2. Inventories

Inventories are valued at the lower of cost (first-in, first-out) or market.

3. Depreciation

Depreciation is calculated by using the straight-line method of depreciation over the estimated useful lives of the property.

4. Long-Term Debt

Long-term debt consists of various notes that are payable in installments. The interest rates on these notes range from 11% to 17% interest. Inventories serve as the collateral. Scheduled maturities as of June 30, 1985, for the five fiscal years 1986 through 1990 are $70,000 (which is included in the current Notes Payable), $35,100, $32,000, $25,000, and $20,000, respectively.

SKINNER'S OFFICE SUPPLY AND EQUIPMENT COMPANY

BALANCE SHEETS

ASSETS

	June 30 1985	June 30 1984
Current Assets:		
Cash	$ 78,100	$ 73,000
Accounts Receivable, net (Note 1)	244,200	230,100
Inventories	313,800	296,200
Total Current Assets	$636,100	$599,300
Fixed Assets:		
Plant and Equipment	$382,500	$341,600
Less Accumulated Depreciation	127,900	112,900
Total Fixed Assets	$254,600	$228,700
Total Assets	$890,700	$828,000

LIABILITIES AND STOCKHOLDERS' EQUITY

Current Liabilities:		
Notes Payable	$102,800	$106,100
Accounts Payable	190,700	182,000
Income Taxes Payable	4,900	2,500
Total Current Liabilities	$298,400	$290,600
Long-Term Notes Payable (Note 4)	$124,100	$141,200
Total Liabilities	$422,500	$431,800
Stockholders' Equity:		
Common Stock, $25 par value, 10,000 shares authorized and issued	$250,000	$250,000
Contributed Capital	50,000	50,000
Retained Earnings	168,200	96,200
Total Stockholders' Equity	$468,200	$396,200
Total Liabilities and Stockholders' Equity	$890,700	$828,000

SKINNER'S OFFICE SUPPLY AND EQUIPMENT

STATEMENTS OF INCOME AND RETAINED EARNINGS

	For Year Ended June 30 1985	1984
Sales	$3,400,000	$3,150,000
Cost of Goods Sold	$2,140,000	$1,984,500
Operating Expenses	1,137,500	1,059,000
	$3,277,500	$3,043,500
Operating Income	$ 122,500	$ 106,500
Interest Expense	33,500	34,500
Income Before Taxes	$ 89,000	$ 72,000
Income Taxes	17,000	9,400
Net Income	$ 72,000	$ 62,600
Retained Earnings at Beginning of Year	96,200	33,600
Retained Earnings at End of Year	$ 168,200	$ 96,200
Earnings Per Share	$ 7.20	$ 6.26

STATEMENT OF CHANGES IN FINANCIAL POSITION

	For Year Ended June 30 1985	1984
Sources of Working Capital:		
Net Income	$ 72,000	$ 62,600
Add: Depreciation	25,000	22,700
Working Capital Provided By Operations	$ 97,000	$ 85,300
Proceeds from Long-Term Borrowings	57,400	62,000
Total Sources of Working Capital	$154,400	$147,300
Uses of Working Capital:		
Purchase of Equipment	$ 50,900	$ 52,000
Payment of Long-Term Debt	74,500	71,800
Total Uses of Working Capital	$125,400	$123,800
Increase in Working Capital	$ 29,000	$ 23,500

Please answer the following general questions.

1. How many years have you served as a bank loan officer?
_____years

2. What is the highest educational level that you completed? (please circle one)
   a. high school
   b. some college
   c. bachelors degree
   d. masters degree or higher

3. What is the approximate size of your bank, in terms of assets? (please circle one)
   a. under $25,000,000
   b. $25,000,000 to $50,000,000
   c. $50,000,000 to $100,000,000
   d. $100,000,000 to $500,000,000
   e. $500,000,000 to $1,000,000,000
   f. above $1,000,000,000

4. What is the average loan size that you normally recommend?
   a. under $50,000
   b. $50,000 to $100,000
   c. $100,001 to $200,000
   d. $200,001 to $400,000
   e. above $400,000

5. In the bank for which you work, are loans approved by yourself or by yourself and a committee? (please circle one)
   a. yourself
   b. yourself and a committee
   c. other (please specify) _____

6. Without turning back to the financial data contained in this questionnaire, how would you rate the capital structure of the company that you analyzed? (Please cirlce the number corresponding to your best estimate.)

Extremely Weak	0	1	2	3	4	5	6	7	8	9	10	Extremely Strong

Thank you for your time. Your responses have been very valuable.

VITA

Jeffrey Reed Miller was born in San Antonio, Texas, on August 3, 1953. He received his primary and secondary education in San Antonio, graduating from Alamo Heights High School in May of 1971. He completed a Bachelor of Business Administration in Accounting in May of 1975 and a Master of Business Administration in August of 1977. Both degrees were from Southwest Texas State University. He was employed as an instructor at Southwest Texas State University from August of 1977 to May of 1979 and from August of 1980 to May of 1981. From June of 1979 to June of 1980, he worked as a staff auditor for the international public accounting firm of Ernst & Whinney. He received his CPA certificate in January of 1979. In 1981, Jeff began his pursuit of a Doctor of Philosophy at Louisiana State University with an accounting major and a quantitative business analysis minor.

DOCTORAL EXAMINATION AND DISSERTATION REPORT

Candidate: Jeffrey Reed Miller

Major Field: Accounting

Title of Dissertation: An Experimental Research Study on the Effects of the Type of Accounting Service on a Bank Lending Decision for Nonpublic Businesses

Approved:

Major Professor and Chairman

Dean of the Graduate School

EXAMINING COMMITTEE:

Bart P. Hartman

A P Ciuatola

Glenn E. Summers

Jeffrey L. Ringuest

Mark D. Lange

Date of Examination:

November 22, 1985